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ABSTRACT

This course is designed to help direct caregivers of people with severe disabilities to better their understanding of the process of positioning. The instructor's guide contains content notes and implementation notes, along with sheets for overhead projection, worksheets, and handouts. The course is organized into 15 sections, totaling about 8 hours' instructional time. The first half includes: an introductory lecture; a positioning exercise and discussion; a videotape and discussion on the importance of therapeutic positioning; a lecture and discussion on principles of therapeutic positioning; a lecture and discussion on principles of therapeutic seating; a lecture reviewing an interdisciplinary approach to positioning; a small group exercise using case studies; and a halftime summary. After a second introductory lecture, the second half includes: a lecture on alternate positions; a demonstration and small-group activity on "quick and dirty" positioning; a lecture/discussion on dining activities; a tape/slide presentation on the history and specifics of intervention; a lecture and demonstration of adaptive equipment; and a final course summary. Includes a list of 12 print resources, seven videotapes, and approximately 50 equipment producers. (PB)

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How to Position People with Severe Disabilities

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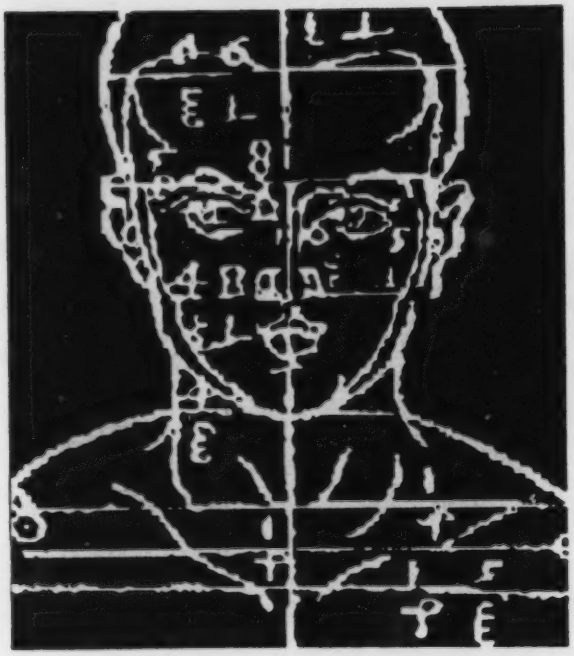

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Positioning, Turning and Transferring

VALUE-BASED SKILLS
TRAINING CURRICULUM

Produced by:

Meyer Children's Rehabilitation Institute Title XX Training Project
University of Nebraska Medical Center
Omaha, Nebraska

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How to Position People with Severe Disabilities

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Notes On Using This Manual

The content upon which this course is based is found in the inside column of each page. Instructor's notes and guidelines appear in the outside column. These notes are intended to help less-experienced instructors create an interesting and effective classroom experience. More experienced instructors may feel free to add their own ideas. Overheads and handouts are provided to help reinforce key points.

This course is designed to be delivered in two four-hour sessions, but can be combined into one eight-hour session.

Notes To Instructor

This course has been specifically developed to help people responsible for providing direct care to individuals with severe disabilities understand and participate in the process of positioning.

This course is organized into a total of 15 sections. Overheads and several videos which can be used to augment the lecture or to demonstrate a particular technique are incorporated into the course.

The time recommended for each section is provided in the notes that preface the sections.

References employed in the development of this course are listed in the bibliography. Before teaching this course we recommend that you become familiar with all of this material, review all videos and tapes plus the handbooks which go with some of the videos.

Format

This course is designed to be delivered via a combination of lecture, slide or videotape presentations, large and small group discussions, and role playing.

As you study the various classroom sections, you will notice that the role playing segments call for participation by at least three individuals. If your class size is too small to permit that level of participation and still generate adequate discussion, you may have to modify your delivery.

In some cases, existing videotape presentations may be substituted. You may wish to develop your own videotape using a home video camera with friends and associates serving as your cast.

Time

This course is designed for a total of eight hours of classroom instruction divided into two four-hour sessions to be held on two different dates.

You may find that your specific circumstances demand delivery over a different time frame. The course may easily be combined into one-day long session with a lunch break.

Additionally, while this course has been developed for stand-alone delivery, it may be combined with additional material as part of a more comprehensive course in the support of individuals with disabilities.

Materials

Originals of all required visual aids, overheads, and handouts are included in this manual. In order to deliver this material as designed, you will have to make overhead copies of these originals and sufficient copies of all handout materials for your class. In addition, the following equipment is required:

1. Overhead projector.
2. Projection screen.
3. VHS Format Video Cassette Recorder (VCR) or video playback unit.
4. Markerboard or flip chart pad with easel.
5. Two or three colored markers.

Positioning

Course Outline

SESSION 1

A. INTRODUCTION
Lecture, 10 minutes

B. POSITIONING EXERCISE
Pairs, discussion, 15 minutes

C. IMPORTANCE OF THERAPEUTIC POSITIONING
Video/discussion, 80 minutes

D. PRINCIPLES OF THERAPEUTIC SEATING
Lecture, discussion, 35 minutes

E. INTERDISCIPLINARY APPROACH TO SEATING
Small-group exercise, 15 minutes

F. WHERE DO WE START?
Lecture, 40 minutes

G. POSITIONING: CASE STUDIES
Small-group exercise, 50 minutes

H. SUMMARY AND CLOSING
Lecture, 10 minutes

SESSION 2

A. INTRODUCTION TO SESSION 2
Lecture, 10 minutes

B. ALTERNATE POSITIONS
Lecture, 30 minutes

C. "QUICK AND DIRTY" POSITIONING
Demonstration, small-group activity, 45 minutes

D. DINING ACTIVITIES DISCUSSION
Lecture, discussion, 45 minutes

E. BACKGROUND AND SPECIFICS OF INTERVENTION
Tape/slide presentation, 60 minutes

F. ADAPTIVE EQUIPMENT
Lecture, demonstration, 20 minutes

G. COURSE SUMMARY
Lecture, 15 minutes

UPON COMPLETION OF THIS COURSE, STUDENTS SHOULD BE ABLE TO:

1.0 Recognize the importance of therapeutic positioning.

1.1 Understand the concept of therapeutic positioning.

1.2 Recognize the physical and psychological benefits of therapeutic positioning.

2.0 Understand the primary principles of therapeutic positioning in the seated position.

2.1 Recognize that therapeutic positioning should:

- Be age appropriate.
- Be condition appropriate.
- Promote therapeutic lifestyles.

2.2 Recognize that there is a relationship between position and normal development.

2.3 List several pieces of equipment that can be used in therapeutic seating.

3.0 Be familiar with the general rules and generic principles for positioning an individual.

3.1 Recognize the need for an interdisciplinary approach to therapeutic positioning.

3.2 Recognize several specific principles and guidelines for positioning individuals with developmental disabilities.

3.3 Recognize five considerations involved in determining positioning:

- Peerability
- Color
- Stall for time
- Individual needs
- 24-hour-a-day needs

4.0 Understand the importance of using therapeutic positioning guidelines to assist an individual with developmental disabilities in all positions and at all times.

4.1 Recognize the family therapeutic lifestyle model of therapeutic positioning.

4.2 Define the terms prone, supine, sidelying, and standing as they relate to therapeutic positioning.

4.3 Be aware of the need to consider therapeutic positioning in all areas of an individual's life.

4.4 Demonstrate the use of "QUICK AND DIRTY" positioning devices and materials.

5.0 Understand the importance of applying therapeutic positioning guidelines to assist individuals at meal times.

5.1 Recognize ways to create the best environment for meals.

5.2 Understand how physical abnormalities can interfere with eating.

5.3 Recognize ways to position the individual and the caregiver to create the best mealtime environment.

5.4 Recognize ways to serve food that best serves the positioning needs of individuals with developmental disabilities.

Positioning

1. Notes and Content

Section A

Introduction

Format

Lecture

Time

10 minutes

Materials

Overhead 1

Notes

1. Introduce yourself and have the students introduce themselves. Display overhead 1, and explain the goals and objectives for the course.

Section B

Positioning Exercise

Format

Pairs, discussion

Time

15 minutes

Objectives

Upon completion of this course, students should be able to:

1.0 Recognize the importance of therapeutic positioning.

1.1 Understand the concept of therapeutic positioning.

Notes

1. Have students pick a partner to work with. Have them move their chairs so that they are facing each other, knees touching. Have each pair pick the student who will go first.

2. Have students make eye contact with their partners. Then, without breaking eye contact, have the student going first stand up and look down at the second student of each pair. For 60 seconds, have each pair continue in this position. Tell students to notice their experience how they feel looking up at another person, and how they feel looking down at another person. Important: Make sure students maintain eye contact.

Section B: Content

Students may have not liked being "FORCED" to be in a certain position and/or to look at their partner for an extended period of time. People with disabilities are often forced to maintain uncomfortable, boring, or even physically unhealthy positions for long periods of time unless proper positioning techniques are used.

Some students may have preferred standing up, while others may have preferred sitting down. Such individual preferences in positioning can have an impact on the lives of people with disabilities, as well.

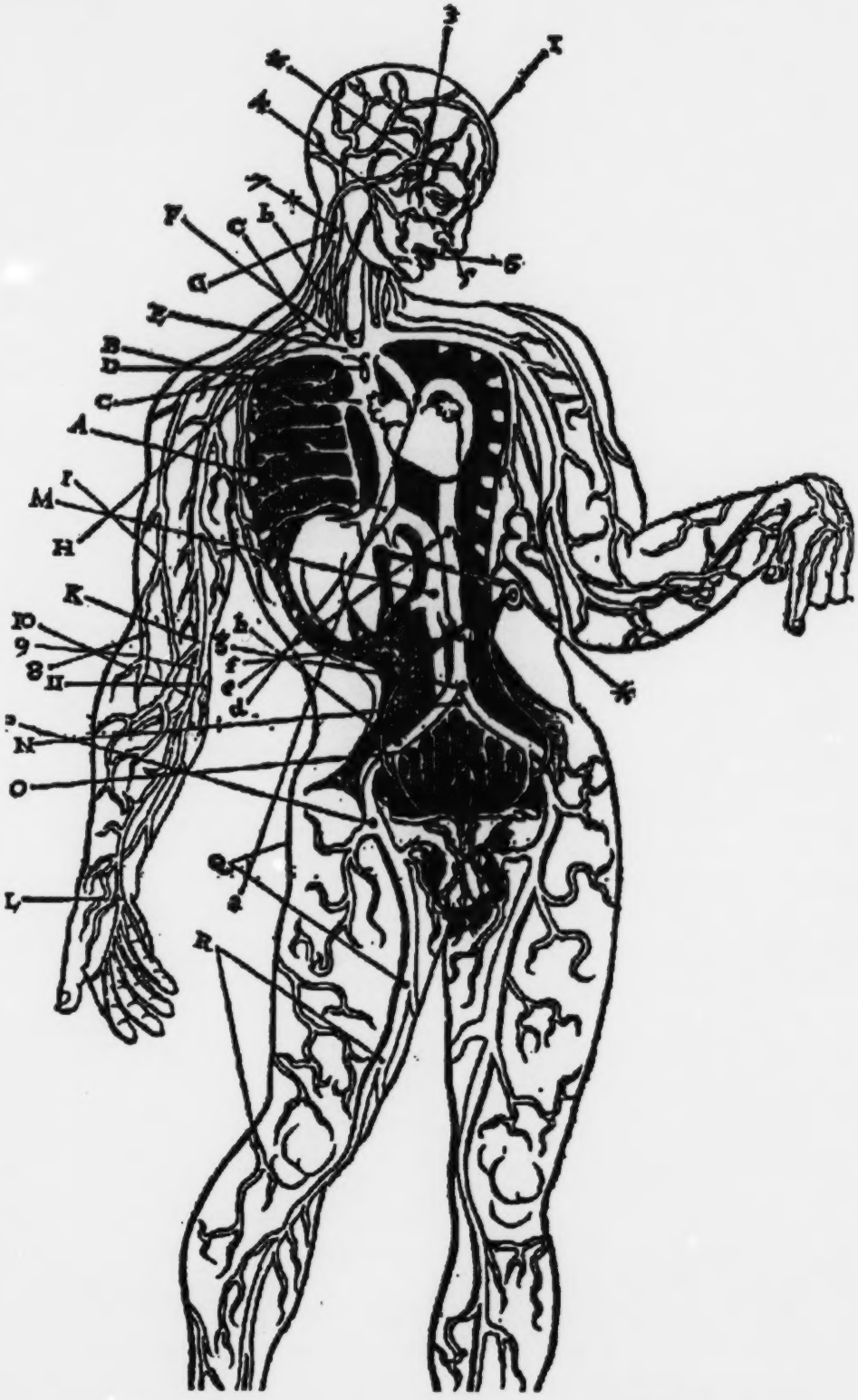
Some students may have felt superior or inferior in one position or another. It's the same way with people who need assistance in positioning the way they are positioned can have an effect on how they feel about themselves in relation to others.

3. Have the first student sit down and then, again without breaking eye contact, have the second student stand up. Again, tell students to notice their experience, how they feel in the position they are in.

4. Have the students spend a few minutes telling their partners their experiences. Ask them to share:

- ☛ Whether they felt awkward in one position or another
- ☛ Whether they felt superior or inferior in one position or another.
- ☛ Whether they felt they had more or less freedom in one position
- ☛ Whether they preferred one position to another
- ☛ Whether they felt uncomfortable being required to be in a certain position.

5. Ask students to share with the group some of the experiences they had. In the process, make the points listed in the content column.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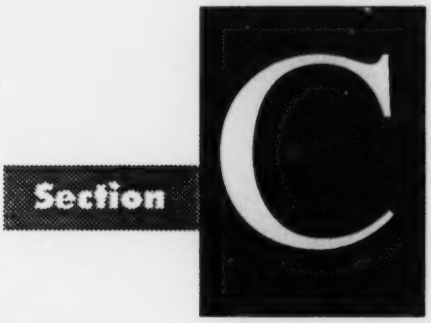


Importance of Therapeutic Positioning

Format

Videotape, discussion

Time

80 minutes

Materials

"Joan Bergman on the Importance of Therapeutic Positioning" videotape

Overheads 2, 3, 4

Objectives

Upon completion of this course, students should be able to:

1.0 Recognize the importance of therapeutic positioning.

- 1.1 Understand the concept of therapeutic positioning.
- 1.2 Recognize the physical and psychological benefits of therapeutic positioning.

Notes

1. Present the videotape "Joan Bergman on the Importance of Therapeutic Positioning" (approximately 60 minutes)

2. Discuss the videotape with the students. Ask them how they feel about the value of positioning. Ask for their personal reactions to what they just saw and heard. (approximately 10 minutes)

3. Summarize the importance of therapeutic positioning, using the content presented here and overheads 2, 3, and 4. Define all terms students do not understand. (approximately 10 minutes)

Section C: Content

INTRODUCTION

From infancy, we hear truisms such as "clothes make the man" and "it's just as easy to fall in love with a rich person as a poor person." Another one of these sayings is, "POSITION IN LIFE IS EVERYTHING." In the field of developmental disabilities at least, it seems this last saying may really be true.

Sometimes in our work of caring for others we do things because we think we are supposed to, we've been told to, or it's in our job description.

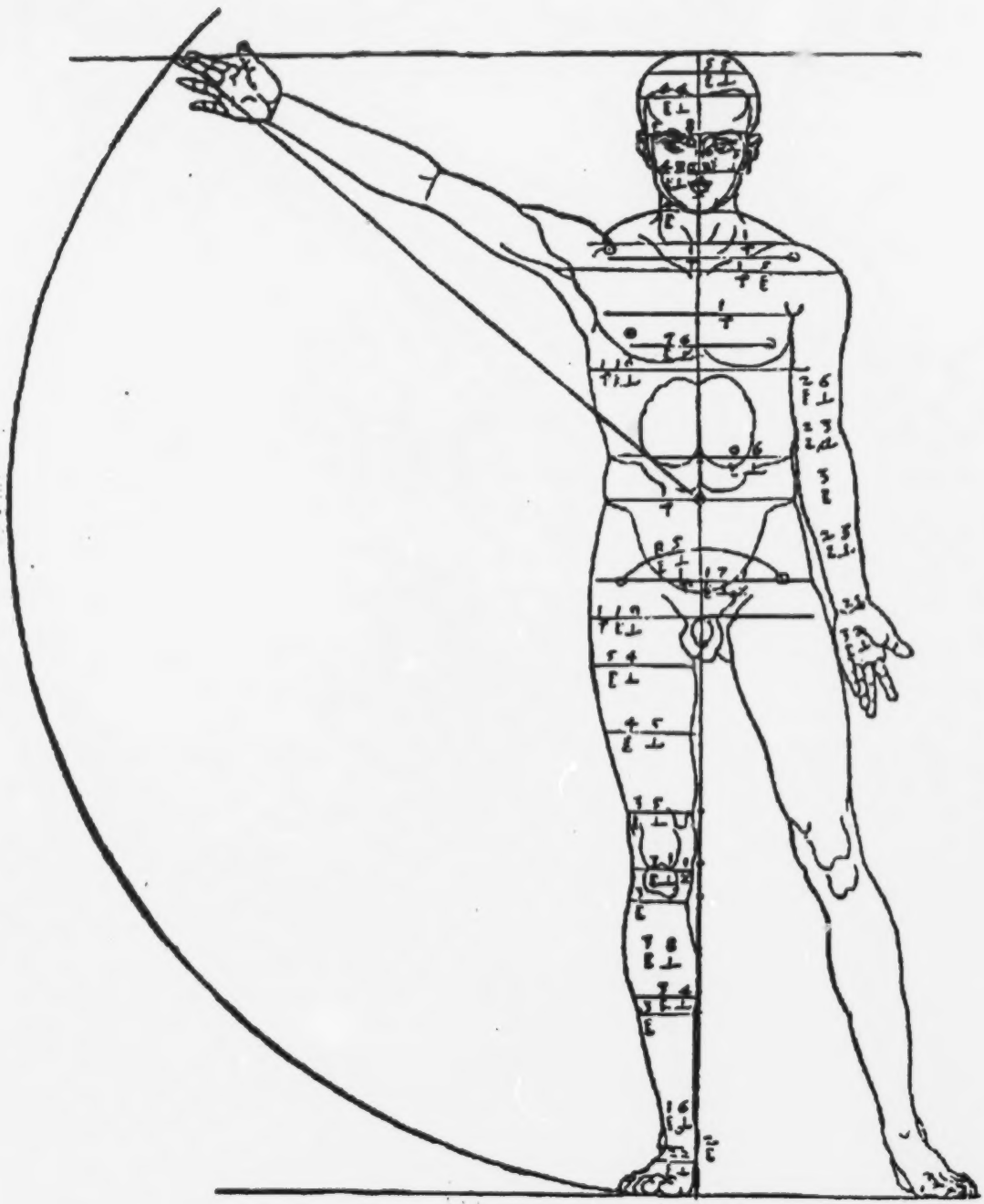
No doubt many people are positioned for one of these or some other rather interesting vague reason. When the concept of normalization was being used and abused freely, many people were put into wheelchairs as if it were their right to be sitting – and that right was an end in itself. I propose that there are other reasons for people who have severe/profound physical disabilities to be positioned.

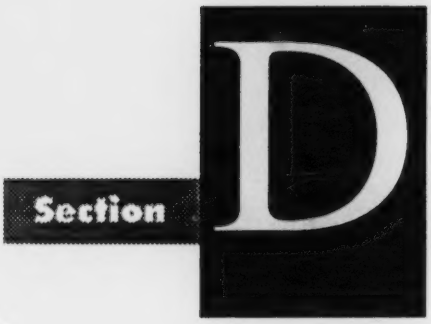
THERAPEUTIC POSITIONING ACTUALLY BENEFITS AT LEAST THE FOLLOWING:

- Cardiopulmonary function
- Elimination
- Vision
- Head control
- Use of arms
- Trunk control
- Function of oral structures
- Prevention/reduction of deformities
- Mobility
- Symmetrical posture
- Attentiveness
- Vocational activities
- Normalization of muscle tone
- Control of abnormal movements
- Improvement of self concept
- Nursing care
- Communication
- Independence in self care

At least as importantly, therapeutic positioning facilitates comfort of the person who has developmental disabilities and the quality of life of that person and his or her primary caregivers.

As a part of this course, you have heard anecdotes and have seen the accompanying pictures which give support to the idea that therapeutic positioning can have a profound impact upon the lives of people who have physical disabilities. Remember the theme of these stories, because you are in a position to make a difference in the lives of those people you are caring for. While position in life may not be everything – without it, there may be nothing.





Principles of Therapeutic Seating

Format

Lecture, discussion

Time

35 minutes

Materials

Overheads 5 through 15

Objectives

Upon completion of this course, students should be able to:

2.0 Understand the primary principles of therapeutic position in the seated position.

2.1 Recognize that therapeutic positioning should:

- Be age appropriate.
- Be condition appropriate.
- Promote therapeutic lifestyles.

2.2 Recognize that there is a relationship between position and normal development.

2.3 List several pieces of equipment that can be used in therapeutic seating.

Section D: Content

INTRODUCTION

Before looking at the specifics of therapeutic positioning, there are a few basic premises that should be acknowledged.

1 First, behaviors should take place at an age appropriate time. For example, the child who reaches six to eight months of age and has normal neuromotor and intellectual functioning sees the world from a sitting position during at least a part of each day. Therefore, the child who has reached this age but is not able to sit should be assisted (i.e., provided with a seating system appropriate to his age and needs).

The child with normal functioning is independent in some form of mobility by the time he is 15 to 18 months of age. With his ability to crawl, creep, walk, run, and climb, he is able to stop and start at will and investigate his surroundings to his heart's content. His counterpart who has impaired neuromotor functioning has very different interaction with the world around him; exploratory behaviors are nonexistent and interaction with the environment is minimal, if at all.

If we believe the child development theories that stress that interaction with the environment is necessary for development, we accept that the child who starts out with neuromotor problems soon has these problems compounded. It is logical, then, to provide assistance in mobility to the child who does not have independent mobility by at least 15 to 18 months of age. It is not inappropriate to have this mobility be battery powered.

Notes

1. Present the basic principles of therapeutic positioning in the seated position. Use overheads 5 through 13 and the content included here to present this information in a way that the students can understand. Use examples and clarifying statements as much as possible. Define terms students do not understand.

2. Describe the types and sources of equipment that can be used in therapeutic seating. Use overheads 14 and 15 and the content provided here.

2 Second, behaviors should take place in a condition appropriate fashion. While those of us with intact neuromotor function selectively decide how we will accomplish a behavior, we tend to think that people who have physical disabilities should be delighted to have one choice available to them. Technology seems to be least available to those people who might benefit from it the most.

FOR EXAMPLE, while someone who is nondisabled may choose to use several forms of mobility to accomplish an activity, someone who walks with the assistance of crutches or gets around by propelling himself in a wheelchair may be expected to use that form of mobility even if it tires him to the extent that by the time he arrives at his destination he is too tired to care.

Picture the teenager who is able to propel her wheelchair independently but is so exhausted by the time she goes from one part of the high school building to another while changing classes, that she arrives late and too tired to pay attention or learn. Probably nothing positive is gained from depriving this individual of powered mobility to use in the school setting.

Just as most ambulatory people have a "CLOSET OF SHOES" (different pairs of shoes to use during different activities dancing, hiking, on the beach, bowling, church), those using wheelchairs should have a "CLOSET OF CHAIRS" (different types of chairs to use during different activities or areas – for the home or office, shopping mall, on the trails, at the beach, bowling . . .)

3 The third premise to consider is that of the promotion of therapeutic lifestyles. Within this framework, the characteristics of the individual are assessed carefully and then a lifestyle developed where everything that is done by, with, for, to the individual is done in a therapeutic way. Every aspect of the person's life should be considered and this concept extended to the family of the targeted individual. For example, one should consider the manner of bathing, dressing, recreational activities, and the effect of the environment, including outdoor space.

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MOVEMENT: NORMAL AND ABNORMAL

DEVELOPMENTAL TRENDS:

There are several developmental trends that are of particular importance to keep in mind when working with people who have physical disabilities. Among these are:

- Movements progress from those of mass excitation to those which are voluntarily controlled.
- Development takes place in a proximal-distal fashion (e.g., the trunk develops before the extremities).
- Development is cephalo-caudal (one develops head control before foot control).
- Gross motor control precedes fine motor control.

COMPONENTS OF MOVEMENT:

There are two components of movement: mobility and stability. That is, a body part is either in movement or it is not.

Heavy work movements are accomplished when stability is superimposed on mobility as in walking.

Fine movements are accomplished when mobility is superimposed upon stability as in talking, eating, and writing.

It is easy to see that if an individual does not have trunk control (that is, they lack stability of their trunk), fine work movements may be impossible. Therefore, stability should be externally supplied as through therapeutic positioning. One can see this demonstrated by a young man who is able to effectively use a chin switch to operate his powered mobility and communication system only when adequate trunk and upper extremity support are provided.

EFFECTS OF POSITIONING:

Normal neuromotor and skeletal development are affected by the individual's position. As an individual develops, he/she learns to maintain a position against gravity and to move a body part through a range in relation to gravity. For example, through practice while lying on his tummy, an infant, develops the ability to hold his head up against gravity. Weight bearing positions affect the development of bone and joint structure. For normal development to take place, it is critical that each individual be in a variety of positions during each day.

CERTAIN FACTORS OR BEHAVIORS OF THE INDIVIDUAL ARE PARTICULARLY DETRIMENTAL TO FUNCTION. THESE ARE:

Abnormal reflexes
Abnormal muscle tone
Skeletal deformities
Abnormal placement of organs

ABNORMAL REFLEXES:

Although all reflexes are normal at some point in a person's life, they are considered to be abnormal if they are not age appropriate (if retained beyond the normal age range) or obligatory beyond the time of first emergence.

REFLEXES WHICH COMMONLY INTERFERE WITH FUNCTION ARE:

Asymmetrical tonic neck reflex (ATNR)

Person assumes the classical fencing position or a modification of that position. The head, arms, and sometimes legs, cannot be controlled separately. This prohibits behaviors such as self-feeding.

Symmetrical tonic neck reflex (STNR)

Head stays in mid-line but head, arms, and sometimes legs, cannot be controlled separately.

Positive supporting reaction

With pressure on the bottom of the feet, spine and extremities go into extension.

Tonic labyrinthine supine

When backlying, the person goes into full extension.

Tonic labyrinthine prone

When facelying, the person goes into full flexion.

ABNORMAL MUSCLE TONE:

Any abnormality of tone, whether it be too much tone (hypertonia), too little tone (hypotonia), or fluctuating tone is detrimental to function. Also very detrimental are associated movements. Here the body seems to be quiet and under good control until the person initiates a movement at which time control is lost and it appears as if all body parts are indeed flying through the air. It should be noted, that when a person with low tone develops contractures, it is the fault of those of us caring for that person.

SKELETAL DEFORMITIES:

Skeletal deformities can limit range of motion and muscle function. Internal organs such as those for cardiopulmonary and digestive function can be affected as well as the more obvious movements of the spine and limbs.

ABNORMAL PLACEMENT OF ORGANS:

These abnormal placements may be congenital or may be acquired. Whatever the cause, those caring for a person should know the exact characteristics of that person and design a program specific to her.

EQUIPMENT

Technology has developed to the point where it is possible for every person to be positioned therapeutically. (Remember this includes comfortably.) As there is no one line or type of equipment that is suitable for everyone, it is the responsibility of positioning specialists to be knowledgeable as to what is available and to be able to pick and choose among the choices.

It should be remembered that both positioning systems and people change over time. For example, components of the system may loosen, be lost, or no longer roll smoothly. Individuals may change size by adding or losing weight or growing taller. Not only may this jeopardize their function, but they will also become uncomfortable and they may begin to develop areas of tissue breakdown. Additionally, people's voluntary control of body movements frequently improves following a period of use of appropriate therapeutic seating. For all of these reasons, it is necessary that the consumer and caregivers routinely consult with the positioning specialist (therapist).

EQUIPMENT SOURCES CAN BE CATEGORIZED AS FOLLOWS:

- Commercially available (off the shelf)
- Modification of commercially available
- Customized
- Customized using commercial kits

CATEGORIES AND EXAMPLES OF EQUIPMENT:

- Pillows, sheets, blankets. This is the old "PUSH AND SHOVE" approach which never stays in place and should not be considered as an approach to positioning.

- Metal, wood and foam, plastic and foam, or cardboard and foam. Considering the cost of the time of the person making or adapting the system and the fact that most of us do not have the skill or equipment to develop effective systems of these materials, this is generally the most expensive and ineffective approach to positioning. Excellent pieces of equipment of these materials are available commercially from many of the firms listed at the end of this unit.

- Planar adjustable systems (example: Rifton).

- Modular systems (example: CP seat).

- Molded systems: vacuu-form.

  1 step vacuum consolidation
  (example: DESEMO).

  2 step vacuum consolidation
  (example: Contour-U).

- Orthotic approach (Gillette seating orthosis).

- Shapeable matrix.

- Hybrids.

Interdisciplinary Approach to Seating

Format

Small-group exercise

Time

15 minutes

Objectives

Upon completion of this course, students should be able to:

3.1 Recognize the need for an interdisciplinary approach to therapeutic positioning.

Notes

1. Divide the group into four small groups. Assign each small group the task of listing all of the various positions/movements a typical person would experience in one of the following domains:

- Home
- School
- Work
- Recreation

Allow about 5 minutes for this brainstorming activity.

2. Ask each group to report its lists. Write the various positions on a blackboard or flipchart.

Section E: Content

In the course of a day, each person adopts many positions and movements. Unless you look at all aspects of an individual's life to examine all of the positions/movements possible to him or her, therapeutic positioning will not be as effective as it can be.

3. Emphasize the following points:

☛ In the course of a day, each person adopts many positions and movements.

☛ Unless you look at all aspects of a person's life to examine all of the positions/movements possible to him or her, therapeutic positioning will not be as effective as it can be.

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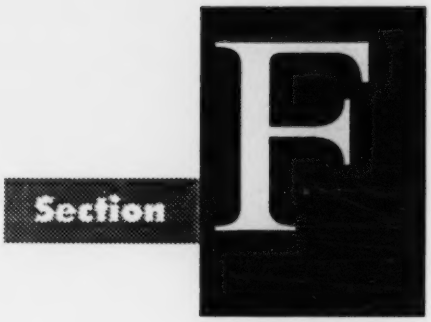


Where Do We Start?

Format

Lecture

Time

40 minutes

Materials

Overheads 16 through 25

Handout on "GENERIC POSITIONING"

Objectives

Upon completion of this course, students should be able to:

3.0 Be familiar with the general rules and generic principles for positioning an individual.

3.1 Recognize the need for an interdisciplinary approach to therapeutic positioning.

3.2 Recognize several specific principles and guidelines for positioning individuals with developmental disabilities.

3.3 Recognize five considerations involved in determining positioning:

- Peerability
- Color
- Stall for time
- Individual needs
- 24-hour-a-day needs

Section F: Content

GENERAL RULES

1. The approach MUST be interdisciplinary. This is a necessity – not a nicety. Included in the therapeutic positioning interdisciplinary team are the individual, primary caregivers (parents, substitute parents, siblings, sitters, etc.), physician(s), nurse, physical therapist, occupational therapist, speech pathologist, educator, and vendor. People representing other disciplines such as vocational rehabilitation should be members as appropriate.

2. Positioning must provide stability where needed.

3. The approach must inhibit abnormal motor behaviors.

4. Positioning must assure optimal alignment of body parts.

5. Positioning must have gravity work FOR the individual.

Many of the deformities of people with physical disabilities are direct results of abnormal motor behaviors combined with the pull of gravity, one of the most powerful forces we as humans must contend with. By combining the inhibition of abnormal motor behaviors, facilitation of normal behaviors, and changing the pull of gravity, the development of further deformities can be slowed or prevented and existing deformities reduced.

Notes

1. Using the content provided and overhead 16, present the general rules for therapeutic positions.

2. Using the content provided and overheads 17 through 24, present the general principles of seating. Point out the Generic Positioning handout for the students, and pass it out at an appropriate time.

3. Using the content provided and overhead 25, discuss five other considerations important in determining positioning.

Start by looking analytically at the individual as he/she arrives in your area. What are the characteristics of the present seating system? How does the person function in that system?

Ask the caregiver(s) who know the person well and who is trusted by that person to sit him/her on a firm surface. Look carefully at the person's body alignment. Is the pelvis rotated, does he/she have head control? Where are the caregiver's hands providing support? Frequently, this is the support we must try to mimic through the positioning system.

Positioning requires knowledge of the human body and of available technology, art, skill, time, and a great deal of patience. Following is a discussion of the general principles of therapeutic positioning in seating.

As always where humans are involved, ideas must be tried to see if they will really work. Positioning is an exercise in fine tuning where change in the support of one body part can be reflected in changes throughout the body. Use of a simulator system as one goes through the trial phase of positioning is the recommended approach.

In this course, a generic approach to positioning is discussed. Materials used for this generic approach to simulation are described in the handout. More sophisticated options such as the use of swing-away rigid pelvic restraints, arm troughs, and gel cushions are not discussed.

GENERAL PRINCIPLES OF SEATING

- Seat and back should be of a firm or special material such as in a Jay cushion to provide support. Sling seats and backs provide a hammocking effect that inhibits function and promotes deformities. It is not unusual for the change to a firm seat and back to be all that is required for good posture, comfort, and function.

- Buttocks should be positioned well back in the seat/back angle and the pelvis anchored with a belt which bisects this angle.

- Chair depth is considered optimal when the space between the back of the knees and the front of the seat approximates one to two fingers in width. Seats can be obtained to accommodate individuals whose legs are of unequal length and whose hips have fixed deformities of unequal amounts.

- Feet should be supported; frequently stabilization with straps is required. During simulation activities sandbags can be used to hold feet in place.

- To inhibit a total body extensor pattern, consider:

  a. Placing a roll or wedge under the individual's knees reducing the hip/back angle, and/or

  b. Placing a roll behind the upper part of the pelvis (this is referred to as a lumbar roll and also reduces the hip/back angle), and/or

c. Modifying the individual's orientation in space. People in whom the tonic labyrinthine supine reflex is still active will tend to assume positions of full body extension when seated with a backward tilt. Bringing them forward closer to perpendicular to the floor can reduce this tendency. In the very sensitive person, changes in the time of day, environment, fatigue, and activity can effect the optimal orientation indicating the need for a system which can be modified throughout the day.

d. Feet placement. The feet must often be positioned very carefully so as not to trigger the positive supporting reaction. Following are three suggestions (the two feet can be treated separately):

1) Use a shortened foot plate so that only the heel receives pressure. The person must wear firm-soled shoes.

2) Decrease the angle of the ankle bringing the foot into dorsiflexion. Adjustable foot plates would be used if heel height will be changing with shoe styles.

3) Use foot plates that allow slight movement in the ankle. With these, people push down slightly into plantar flexion. When there is not strong resistance, the feet relax and return to a neutral position.

- To inhibit slumping forward, again consider the individual's response to orientation in space. Some people will demonstrate a loss of tone or increase in flexor tone as they are brought close to the upright position. Tilt the system forward and backward until optimal normalization of tone is evidenced.

- To keep the legs in good alignment – either from locking together or crossing or from rolling out:

  a. Place a small roll or piece of foam between the individual's knees. The length of this abductor piece should be no greater than one third of the distance from the knees to the crotch. Do not use this part of the system to keep the person's hips back in the chair as that might cause pain in the genitalia;

  b. Place foam pieces along the outside of the legs to keep them as straight forward as possible.

- Lateral supports or scoliosis pads can be used to assist in keeping the trunk from falling to either side. Swing-away curved thoracic pads provide even more control and also assist in keeping the trunk up-right.

- Chest harnesses come in many configurations and can be used to assist in trunk control. The lower straps should be separate from the pelvic belt. The upper straps should insert into the seat back or go over the seat back at a level slightly lower than the top of the individual's shoulders.

- Head support. Most people do not do well when their heads are positioned against extended seat backs as these tend to throw the heads forward. Various types of head supports should be tried to see which one works best for each individual. In general, those that provide support under the occiput (base of the skull) as well as to the back of the head seem to work best. Some supports allow adjustments up/down forward/backward, and in the angle of approach to the head. Collars are also available for those people who require forward support.

Remember to provide head supports for safety during transporting even if individuals do not require them during other activities. Correctly used lapboards can facilitate head control as discussed in the next paragraph.

- Arm/hand control.

    a. Lapboard/tray. Both height and angle of the lapboard/tray can be critical to the function of the individual. When placed optimally, this part of the positioning system can enhance extremity as well as head control. Easel trays are available which hold materials in such a way that the individual does not have to look down while reading, looking at objects, or using the communication system and perhaps lose head control. Angled trays can be beneficial in breaking up the symmetrical tonic reflex thus freeing head and arms to operate independently.

b. Bumpers of ethafoam or wood and foam can be added to the tray to assist the individual in keeping the arms forward and in functional position. Bumpers can also be attached to the frame of the chair to inhibit shoulder retraction.

OTHER CONSIDERATIONS

PEERABILITY

It is important that the seating system assist the individual in fitting in well with peers. For example, systems for toddler age children should put them at the height of their peers – not several feet above them. Likewise, it is possible to adapt commercially available toys such as trucks or jeeps with positioning systems so that the child again fits in with his peers without looking obviously different. Peer ability is an important concept to keep in mind whatever the age or lifestyle of the individual.

COLOR

Because a person can be surrounded by his positioning system, it is particularly important that attention be given to selecting a color that enhances the attractiveness of the individual. Do not underestimate the effect of color.

STALL FOR TIME

People's reaction times differ. When going through simulation activities, stall for time to allow for physiological and psychological reactions including fatigue and development of areas of too much pressure.

INDIVIDUAL NEEDS

Meet the individual and family needs – not the rest of the team's. Be sure that the positioning system is compatible with other systems such as communication, environmental control, and emergency equipment of the individual. It is possible to have all systems work from one set of controls so that the individual is always in control. Double check to be certain that caregivers will be able to handle the system, that it is compatible with the individual's home, lifestyle, and transportation system.

24-HOUR-DAY

Positioning is a 24-hour consideration with seating being only one of the options. Although seating is important, other positions during the day must also be therapeutic.

Case Studies

Format

Small-group exercise

Time

50 minutes

Materials

Copies of case studies you've prepared, ready to hand out to students

Notes

1. Have prepared several case studies describing the positioning requirements and the environment of several people with developmental disabilities.

2. Divide the class into small groups of two or three, and hand out a case study to each group.

3. Have each group come up with a plan for improving the therapeutic positioning of the individual described in the case study.

4. Have each group describe the solution they came up with and comment on the solution to reinforce the points presented in this session.

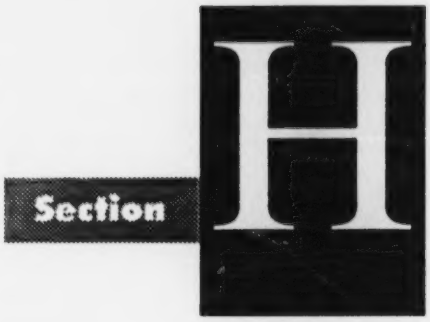
Objectives

Upon completion of this course, students should be able to:

3.0 Be familiar with the general rules and generic principles for positioning an individual.

3.3 Recognize five considerations involved in determining positioning:

- Peerability
- Color
- Stall for time
- Individual needs
- 24-hour-a-day needs



Summary and Closing

Format

Lecture

Time

10 minutes

Materials

Copies of all overheads from Session 1 to handout to participants.

Notes

1. Review the main points presented in this session.

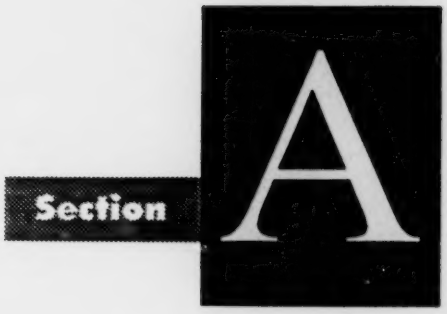
2. Give students copies of all overheads as handouts from this session.

Section H: Content

This section has been developed to bring the first half of the session to a close with a meaningful review of the material covered in the previous sections.

Positioning

Session 2. Notes and Content



Introduction to Session 2

Format

Lecture

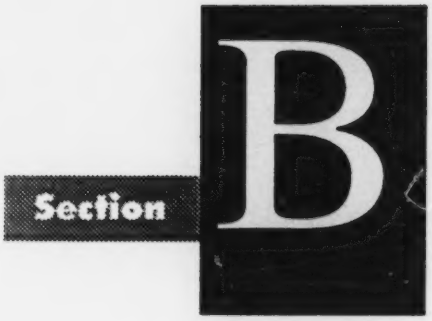
Time

10 minutes

Notes

1. Review the main points presented in Session 1.

2. Explain briefly what Session 2 will cover.



Alternate Positions

Format

Lecture

Time

30 minutes

Materials

Overheads 26 and 27

Objectives

Upon completion of this course, students should be able to:

4.0 Understand the importance of using therapeutic positioning guidelines to assist an individual with developmental disabilities in all positions and at all times.

- 4.1 Recognize the family therapeutic lifestyle model of therapeutic positioning.
- 4.2 Define the terms prone, supine, sidelying, and standing as they relate to therapeutic positioning.
- 4.3 Be aware of the need to consider therapeutic positioning in all areas of an individual's life.

Section B: Content

TREATMENT/TRAINING MODEL

The dominant model of service delivery used to be the TREATMENT/TRAINING MODEL where a person in one of the disciplines trained to work in the field of developmental disabilities provides treatment for 30 minutes to an hour, one to three times a week.

PARENT TRAINING MODEL

Partially in response to the often asked question, "What happens the rest of the time?" the field moved developmentally to the PARENT TRAINING MODEL. In this model, a professional carries out assessments, plans the treatment, and teaches the treatment or components of the treatment to a parent or other primary caregiver, who then carries out the program for a prescribed number of minutes a day for an agreed upon number of days per week.

The total number of minutes per week allotted for treatment is greater than those of the treatment/training model but the majority of time is still unaccounted for. Inherent in this model, is the additional problem of the ambiguity of the role of the parent/caregiver who vacillates between the roles of parent and therapist.

Notes

1. Present the information included here about "Alternate Positions: Therapeutic Positioning in Positions Other Than Seating." Use clarifying statements and as many examples as possible to present the information. Define all terms the students do not understand.

THERAPEUTIC LIFESTYLE MODEL

The next step in the development of the field was a big one as people began to try the approach referred to as the THERAPEUTIC LIFESTYLE MODEL or the model requiring 24-hour planning.

This model requires careful, comprehensive interdisciplinary assessment and team planning with ALL involved people serving as interactive, contributing team members. The person who has the developmental disability and his/her other family members/primary caregivers are key members of the team. The entire 24-hour-day, seven-day week is reviewed carefully, activities analyzed and modified as appropriate so that everything that is done by, for, and with the individual is done in a manner therapeutic for him or her.

For example, the person who has very low muscle tone would receive some brisk "scrubbing" during bathing while the person who has very high muscle tone would be bathed very gently with a soft cloth.

FAMILY THERAPEUTIC LIFESTYLE MODEL

Finally, some people in the field have moved on to the family therapeutic lifestyle model where special attention is paid to making the lifestyle of family members, as well as the person who has the disability, therapeutic. This approach is consistent with the current move toward the family centered, community based service delivery model currently being attempted around the country.

One of the most obvious aspects of an individual's life to pay attention to is the position he/she is in. For, no matter what else is going on in a person's life at any give moment, he/she is in a position and that position should be therapeutic. The seated position which is an important position for eating, many lines of work, and a number of other activities has been discussed previously. In this unit, we will look at positions other than seating or alternate positions. Controls for the individual's communication, environmental control, and emergency calling systems should be available to him/her in each of the positions.

PRONE

The term prone refers to lying face down or on the tummy. It is a position preferred by many for sleeping and resting. In this position, the body, head, and all limbs are supported. Probably because of this support and the fact that flexion is promoted, the prone position is a comforting one. Watch the person's feet. If it looks as if this position is promoting tightness in plantar flexion, a small roll can be placed under the ankles or the person can be positioned so that the feet hang off the end of the mattress. To relax spinal musculature, a small roll may be placed under the lower area of the abdomen.

A modification of the prone position is PRONE ON WEDGE where the person's body is supported on an incline. The arms can be supported on the wedge, hang over the top of the wedge to be free for upper extremity activities, or placed in a weight-bearing position over the top of the wedge. This last is particularly conducive to the

development of head control, shoulder girdle strength, and upper extremity control. Examples of activities commonly carried out prone on wedge include drinking from a straw, eating snacks, painting, playing board games, blowing bubbles, rolling cookie dough, and watching television. A mercury switch on the individual's head to turn on a toy, radio, or television can be added to promote neck extension. Again, watch the feet to be certain that tightness in plantar flexion is not being promoted.

SUPINE

The term supine refers to lying on one's back. Many people who have developmental disabilities have remnants of the tonic labyrinthine supine reflex. Their muscle tone is increased dramatically by lying supine, and they involuntarily assume a position of hyperextension or opisthotonos. For these people, time in supine should be very limited or eliminated.

Conversely, time in the supine position or supine on a wedge may facilitate tone in people with very low muscle tone. Supine on a wedge is a good position for developing attention to people or activities, doing oral-motor activities such as blowing bubbles, and doing activities requiring bringing the hands to the mid-line.

Supine in a string hammock is another version of the supine position but the effects are very different. Here the muscles of the back are elongated rather than shortened as in hyperextension. This position promotes relaxation, neck flexion, oral-motor relaxation, and mid-line activities.

SIDELYING

Use the fact that weight-bearing structures elongate for the advantage of the individual who has physical disabilities. Sidelying can be both comfortable and therapeutic if the person is well positioned. The head should be supported in midline. Padding should be provided so that bony prominences do not cause discomfort. Generally, the bottom leg is bent to provide stability. Vary supporting materials as appropriate to the individual.

Sidelying should be done on each side. Remember to allow for the effect of gravity on body structures. Because of the support provided to the bottom arm and the effect of gravity on the top arm, sidelying is an excellent facilitator of mid-line activities.

STANDING

Unless caregivers wait until individuals are adults before standing them, people generally enjoy being in the upright position. Additionally, standing is very therapeutic. Standing inhibits the development of osteoporosis in weight-bearing bones (legs and spine), facilitates normal urinary tract function, and allows the person to be in the same position as peers for certain activities. Prone and supine standers with trays are available which allow the combination of prone or supine positioning with standing. Foot powered, hand powered, and battery powered units are also available.

STRADDLING A BOLSTER

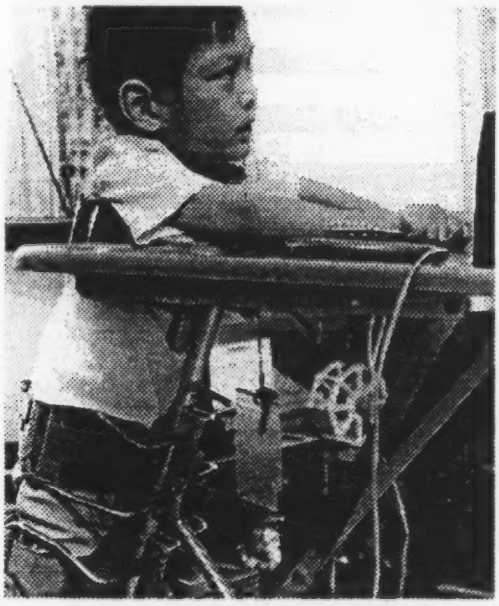
Sitting astraddle a rounded-top bolster reduces spasticity of individuals who have hypertonicity. Rhythmical movement of the bolster further reduces spasticity. An obvious extension of this therapeutic approach is horseback riding - a recreational activity good for the body and soul of many.

TOILETS

Toilets offering a variety of supports are available commercially. For the person with the most severe involvement, supports can be individually molded. Although a person may require assistance getting onto and off the toilet, a system should be available so that once on, he is relaxed physically and can toilet in safety and privacy, using a signaling device if necessary to indicate when he is ready for assistance in getting off the toilet. Facilities such as schools and group homes should have a variety of toileting systems available so that the needs of each individual are met. Work sites must have toileting facilities to accommodate individual needs.

TRANSPORT SYSTEMS

There are very few wheelchair systems that are safe for use in transporting. Because of the changing status of the systems, it is recommended that caregivers periodically request up-to-date information from Dr. Marilyn J. Bull, J. Whitcomb Riley Children's Hospital, University of Indiana Medical Center, Indianapolis, IN.

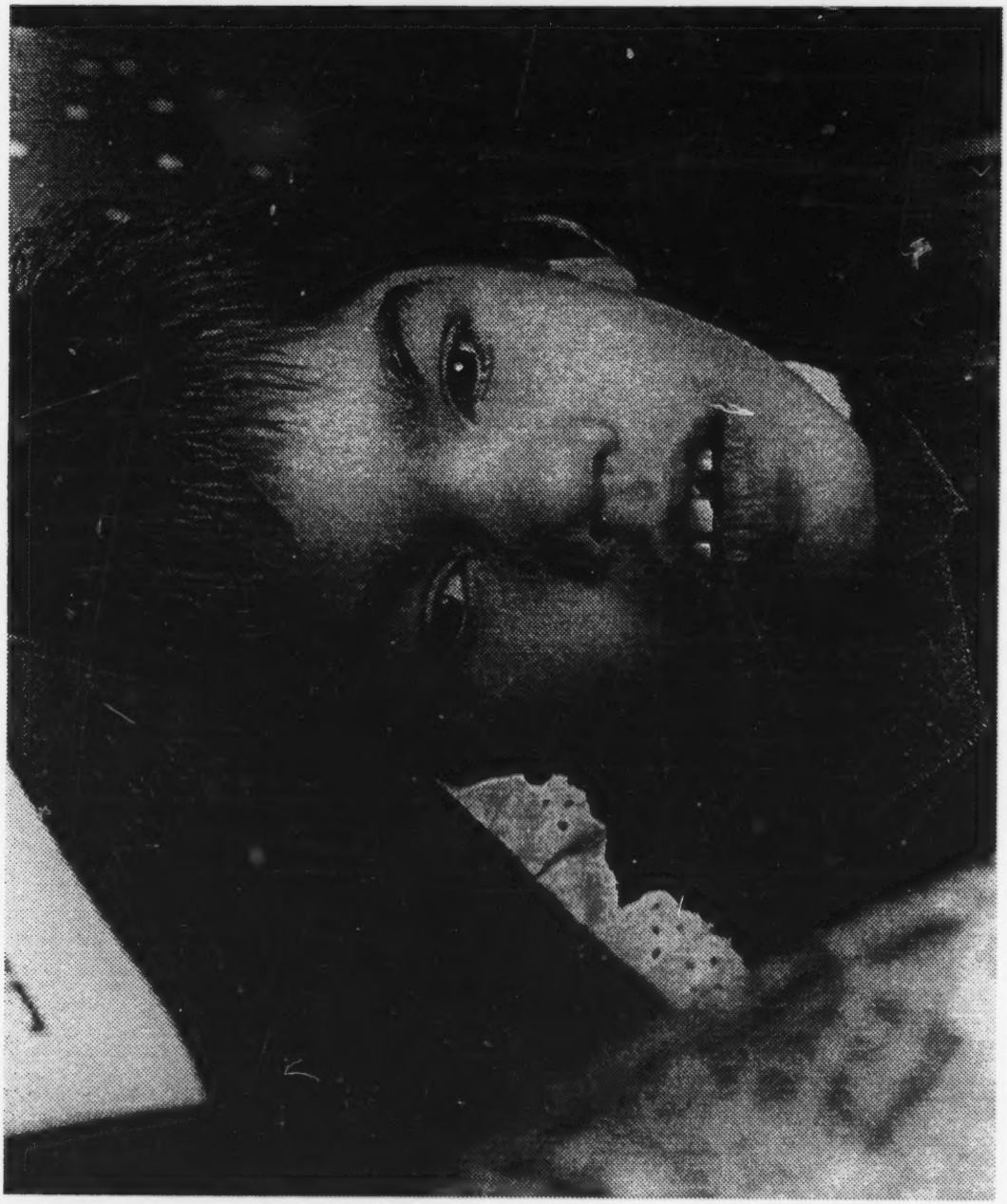


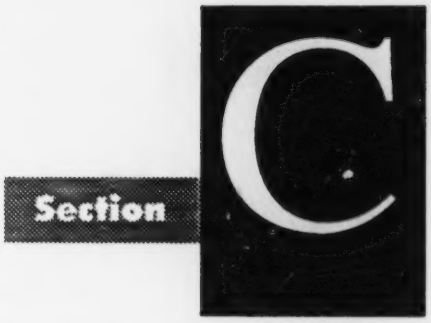
ADDITIONAL OPTIONS

Keeping in mind the individual's characteristics and preferred lifestyle as well as the family's lifestyle, caregivers should not limit their imaginations. Devices and adaptive equipment are available making it possible for people with physical disabilities to be active participants in many activities such as swimming, canoeing, and tennis. Mobility toys, baby joggers, and off-the-ground playground equipment such as swings are easily adapted for those people who require specific positioning.

CONCLUSION

It is imperative that around the clock attention be given to the positions that people are in and that these positions be therapeutic. For those people who cannot change their own position, it should be changed for them frequently enough that they do not tire.





"Quick and Dirty" Positioning

Format

Small-group exercise

Time

45 minutes

Materials

"QUICK AND DIRTY" positioning materials

Objectives

Upon completion of this course, students should be able to:

3.0 Be familiar with the general rules and generic principles for positioning an individual.

3.2 Recognize several specific principles and guidelines for positioning individuals with developmental disabilities.

4.0 Understand the importance of using therapeutic positioning guidelines to assist an individual with developmental disabilities in all positions and at all times.

4.4 Demonstrate the use of "QUICK AND DIRTY" positioning devices and materials.

Section C: Content

"QUICK AND DIRTY" POSITIONING MATERIALS

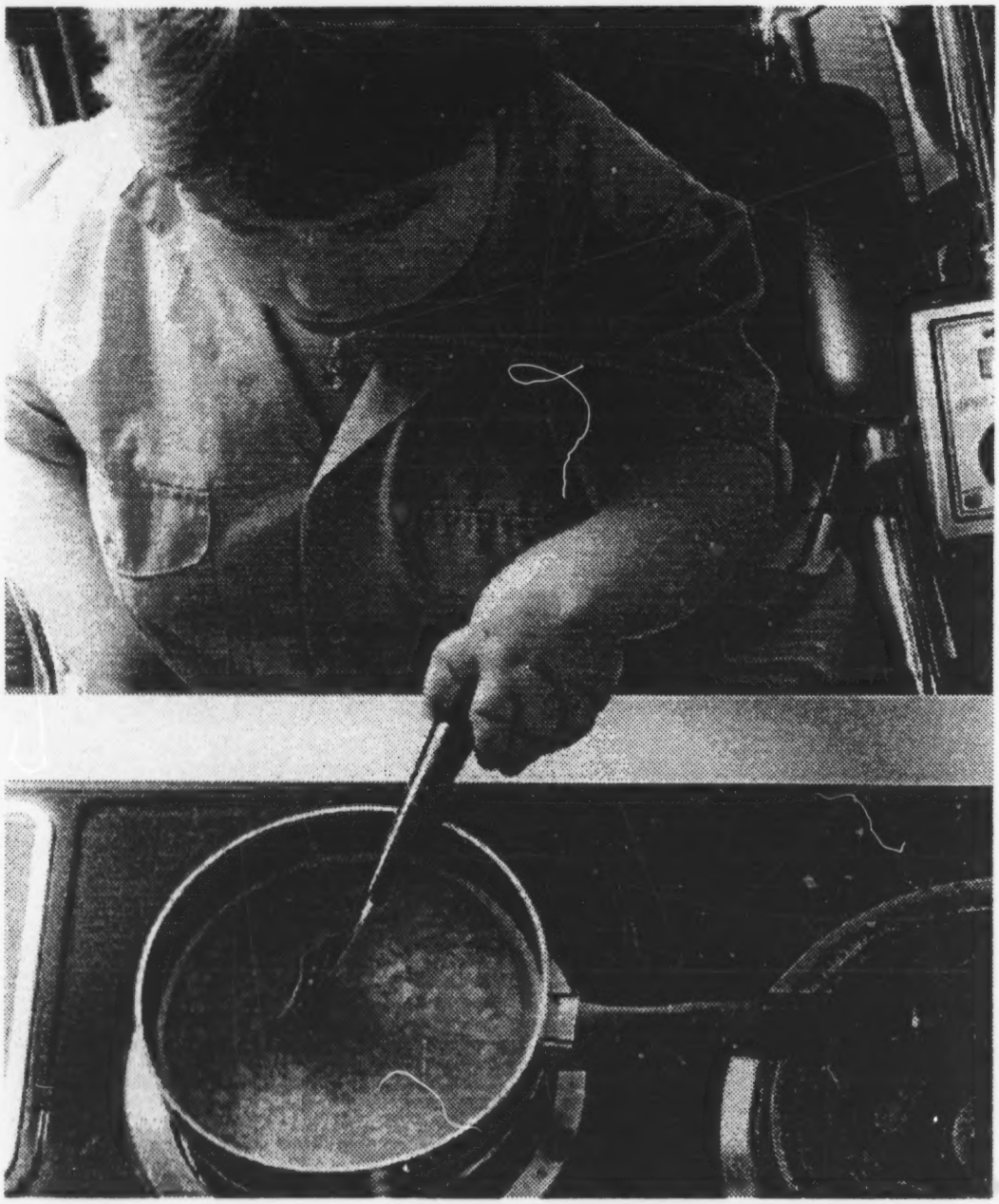
- Several sizes of straight, sturdy chairs with arms
- Plywood or firm foam back and seat inserts for each chair
- Low nap carpeting on seat and back surfaces (to act as "velcro" loop)
- Ethafoam
- Blocks for foot support
- Belts to secure pelvis
- Harness/vest for trunk stabilization
- Rolls of soft foam or towels to go under knees, behind pelvis, behind shoulders or head
- Pieces of firm foam for back, trunk, arm support
- Adhesive-back velcro
- Blocks for under table legs, chair legs for tilt
- Sandbags for feet, thighs

Notes

1. Divide the class into groups of three to four students each.

2. Give each group several items from the list included here that can be used for "quick and dirty" positioning.

3. Have each group come up with as many uses as possible for these and any other commonly available items they can think of to aid in therapeutic positioning. Encourage them to use a member of their group as a "model" of an individual requiring therapeutic positioning, drawing from their knowledge of people with disabilities.



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Section D

Dining Activities Discussion

Format

Lecture/discussion

Time

45 minutes

Materials

Overheads 28, 29, 30

Samples of adaptive eating equipment (optional)

Objectives

Upon completion of this course, students should be able to:

5.0 Understand the importance of applying therapeutic positioning guidelines to assist individuals at meal times.

5.1 Recognize ways to create the best environment for meals.

5.2 Understand how physical abnormalities can interfere with eating.

5.3 Recognize ways to position the individual and the caregiver to create the best mealtime environment.

5.4 Recognize ways to serve food that best serves the positioning needs of individuals with developmental disabilities.

Section D: Content

While in our society mealtimes are generally pleasant, social occasions, they can be unpleasant experiences for both the people who have physical disabilities and for their primary caregivers. As with all other activities of individuals, care must be taken to look at people as total individuals before deciding on programs of intervention.

Inabilities to eat well and to self-feed should be looked at as two separate activities. For the person who has difficulty eating (that is, scraping food off the utensil, chewing, swallowing ... .), assessments of a neuromotor (including oral-motor) nature should be carried out and programs of inhibition and facilitation implemented. For those people with mental retardation, with behavioral disorders in addition to physical disabilities, or who have difficulty handling stimulating situations, particular attention must also be paid to the environment. Consideration must be given to mental and physical developmental ages as well as to chronological age.

An interdisciplinary dining specialty team, consisting of primary caregivers and usually people from the disciplines of nutrition, medicine, physical therapy, occupational therapy, and psychology, is necessary for assessing characteristics of the individual and situation and for planning and monitoring intervention programs. A videofluoroscopic examination assists in determining the reasons for difficulty in eating and in planning the therapeutic program.

For more information, refer to specific topic areas in the references listed at the end.

Notes

1. Using overheads 28, 29, and 30 present the information included here about dining activities. Use clarifying statements and as many examples as possible to present the information.

ENVIRONMENT

The environment should be pleasant with care being taken not to provide over-stimulation of any of the sensory systems. Consider both floor and wall coverings as well as ceiling materials for absorption of noise and for "clutter" of decorative patterns. Because of the overload of stimulation, a school setting type cafeteria may not be the best setting for eating. Instead, dining should be carried out in fairly small sized rooms or in rooms with sound absorbent and visual barriers so that people eat in comfortable, sociable areas at tables for two to six people.

Care should be taken that social interactions are not just those between caregivers but that individuals should be included and encouraged in both client/client interactions and client/caregiver interactions. Individuals should not be brought to the dining area until it is actually time for them to eat as waiting where olfactory, visual, and auditory systems are activated without reinforcement can produce fatigue, unhappiness, and/or inappropriate behaviors.

Background music can be therapeutic. Usually music with a beat similar to that of the pulse, 60 to 70 beats per minute, is best. Fast music can be disruptive to someone for whom eating is difficult. However, fast music might be useful as pre-dining stimulation for someone whose alertness and muscle tone require arousing before eating. As always, the various components of the situation must be considered prescriptively.

PHYSICAL ABNORMALITIES

Remember the principles of mobility/stability and the proximal/distal trend in development apply here as they did when we were considering the importance of positioning for function. Eating is a behavior requiring precisely coordinated fine movements.

PHYSICAL ABNORMALITIES WHICH PARTICULARLY INTERFERE WITH A PERSON'S ABILITY TO EAT ARE:

1. Abnormal muscle tone – increased tone, low tone, or fluctuating

2. Abnormal reflex behavior with the body bound in obligatory patterns such as those of the asymmetrical tonic neck reflex, symmetrical tonic neck reflex, positive supporting reaction, extensor pattern and the tonic labyrinthine supine and prone

3. Abnormal reflex behavior of the oral area such as increased or decreased gag reflex and bit reflex

4. Skeletal deformities

5. Abnormal location of internal organs

SEATING

For those people for whom physical disabilities interfere with the eating/feeding process, consider first the correct position of the individual. For oral eating and drinking activities, the individual should

be seated in as upright a position as therapeutic (i.e., avoid a position of being absolutely upright in those individuals for whom this position facilitates an inappropriate physical response such as a flexor pattern.) Refer to previous information for the correct techniques of positioning in the seated position. While the individual is eating, it may be helpful to have the table/lap tray a little higher than in other activities so that the individual actually leans on her elbows. This can increase muscle tone of shoulder, neck, and oral structures and facilitate eating, drinking, and self-feeding movements.

TUBE-FEEDING

The position of the individual during and after feeding by tube is critical and must be determined based upon the specific characteristics of the individual. Attention should be paid to placement of organs (whether normal or abnormal) and reflux activity. Positions often therapeutic for bolus formation and nutrient flow are prone (lying on stomach) on a 45-degree wedge or lying on the right side. Again, mealtimes should be as pleasant as possible. Non-nutritive sucking as with a pacifier is frequently prescribed with young people to go along with tube feeding. When not contra-indicated, tube feeding of people of any age should be accompanied by pleasant oral stimulation activities such as those provided by eating a sucker.

POSITION AND COMMUNICATION OF THE CAREGIVER

If an individual requires assistance in eating, the caregiver should usually be positioned either in front of or behind and slightly to the side of the person being assisted. Either position keeps the assisted individual informed as to the source and location of the helping hands and from being surprised by having a utensil suddenly appear in their face. Explanation by the caregiver as to what he/she is doing and what to expect of the food (temperature, consistency, tartness, etc.) is helpful for the eating process as well as for labeling for communication.

Be sure to allow the individual to use her communication system. Mealtimes are excellent settings for initiation of communication, indicating preferences, and visiting.

FOOD PLACEMENT

Precise placement of utensils and food in the mouth is critical and is another aspect of the dining activity to be specifically prescribed by the interdisciplinary team and carried out consistently by each of the caregivers. Among the behaviors affected are the gag reflex, tongue lateralization, and cheek and lip movements – all critical components of eating.

CHARACTERISTICS OF FOOD

For those people who have physical difficulty eating, foods that stick together or have the consistency of a thick malt or pudding are often

easier to eat than foods that break apart and scatter in the mouth. The dining specialty team can determine the best consistency and texture of food for each individual and plan changes in the consistency as appropriate. Food of mixed consistency, such as chicken noodle soup, is traditionally very difficult to handle.

Cold food can serve to increase muscle tone in those people with hypotonia and can prepare the structures for swallowing. Similarly, spicy foods can increase muscle tone.
On the other hand, people with problems of sensory integration may not be able to handle the high stimulation of spicy foods.

FEEDING UTENSILS, PLATES, BOWLS, ETC.

Today, there are feeding utensils and adaptive equipment that fill the need of almost every individual who has eating problems. Commonly used items are those such as plates or bowls with rims which the food can be pushed against, spoons and forks with built-up handles, and spoons and forks with angled or swivel bowls. Dycem® is useful in keeping plates and bowls from sliding. If Dycem is unavailable, a damp paper towel under the plate or bowl will reduce sliding.

For your consideration a list of equipment/supply sources is provided with this unit. It is recommended that personnel of each program have a resource room in which these catalogs are housed and referred to frequently. In addition, samples of commonly used items should be available for trial usage with individuals

GLOVES

For the safety of both individuals and caregivers, rubber gloves should be worn when placing hands in an individual's mouth. This is not unpleasant if done routinely and if the hands are held under running water after the gloves have been put on. Dry rubber gloves in a person's mouth can be distasteful.

SUMMARY

Eating, whether the person self-feeds or is fed, is a very complex activity which each of us engages in several times a day every day of our lives. Comprehensive assessment and intervention are required for many people who have physical disabilities. Attention to every aspect of the program and consistency among caregivers are important components for the successful development and the comfort of the individual. Following are general but very important principles to be remembered:

- Assessment and intervention should be carried out by an interdisciplinary team.
- Separate medical, dental, behavioral, physical considerations.
- Once the program has been implemented, change one aspect (room, texture, . . .) at a time.
- Mealtimes should and can be pleasant for all involved!

**Available from equipment sources including Fabrication Enterprises Inc. (see resource list)*

Background and Specifics of Intervention

Format

Tape/slide presentation

Time

60 minutes

Materials

Background and Specifics of Intervention
3-part slide/tape presentation, from
Media Resource Center, Meyer Children's
Rehabilitation Institute, 444 S. 44th St.,
Omaha, Nebraska 68131-3795

Automatic advance slide and tape player

Objectives

Upon completion of this course, students should be able to:

5.0 Understand the importance of applying therapeutic positioning guidelines to assist individuals at meal times.

5.1 Recognize ways to create the best environment for meals.

5.2 Understand how physical abnormalities can interfere with eating.

5.4 Recognize ways to serve food that best serves the positioning needs of individuals with developmental disabilities.

Section E: Content

Tape/slide presentations are on the normal development of eating, positioning for eating and specifics of techniques to facilitate dining activities. Attention should be paid to the concepts of positioning, not the specific equipment shown. I do not recommend use of a center post to keep the person from slipping as suggested in this presentation.

Notes

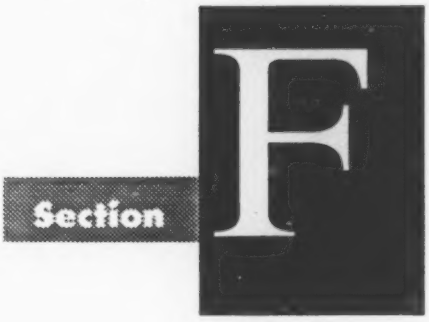
1. Present the three-part tape/slide presentation:

a. Part I, Normal Progression of Feeding.

b. Part II, Positioning the Child with Neuromuscular Problems.

c. Part III, Oral Mechanisms and Related Factors

2. Summarize the important points made in the presentation.



Adaptive Equipment

Format

Demonstration

Time

20 minutes

Materials

Examples of adaptive equipment used for eating/feeding

Objectives

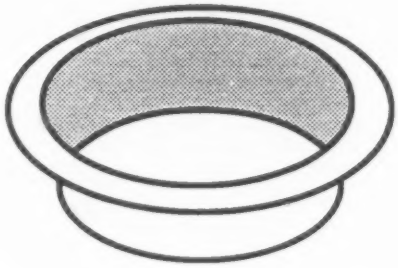
Upon completion of this course, students should be able to:

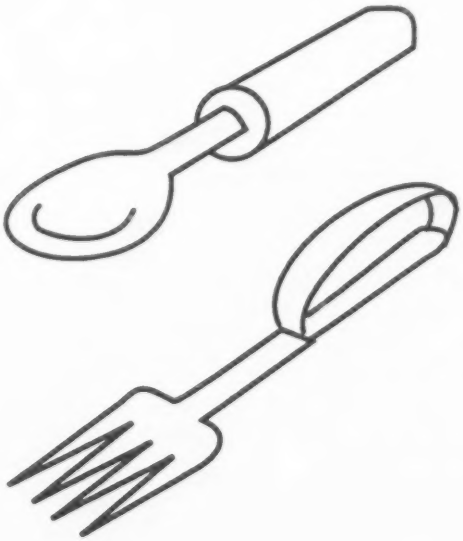
5.0 Understand the importance of applying therapeutic positioning guidelines to assist individuals at meal times.

5.4 Recognize ways to serve food that best serves the positioning needs of individuals with developmental disabilities.

Section F: Content

It is important for class participants to note that actual prescriptive information has not been given in this class. As primary caregivers, each student will serve as important members of the interdisciplinary team and will carry out programs as specifically designed for each person with whom they work.

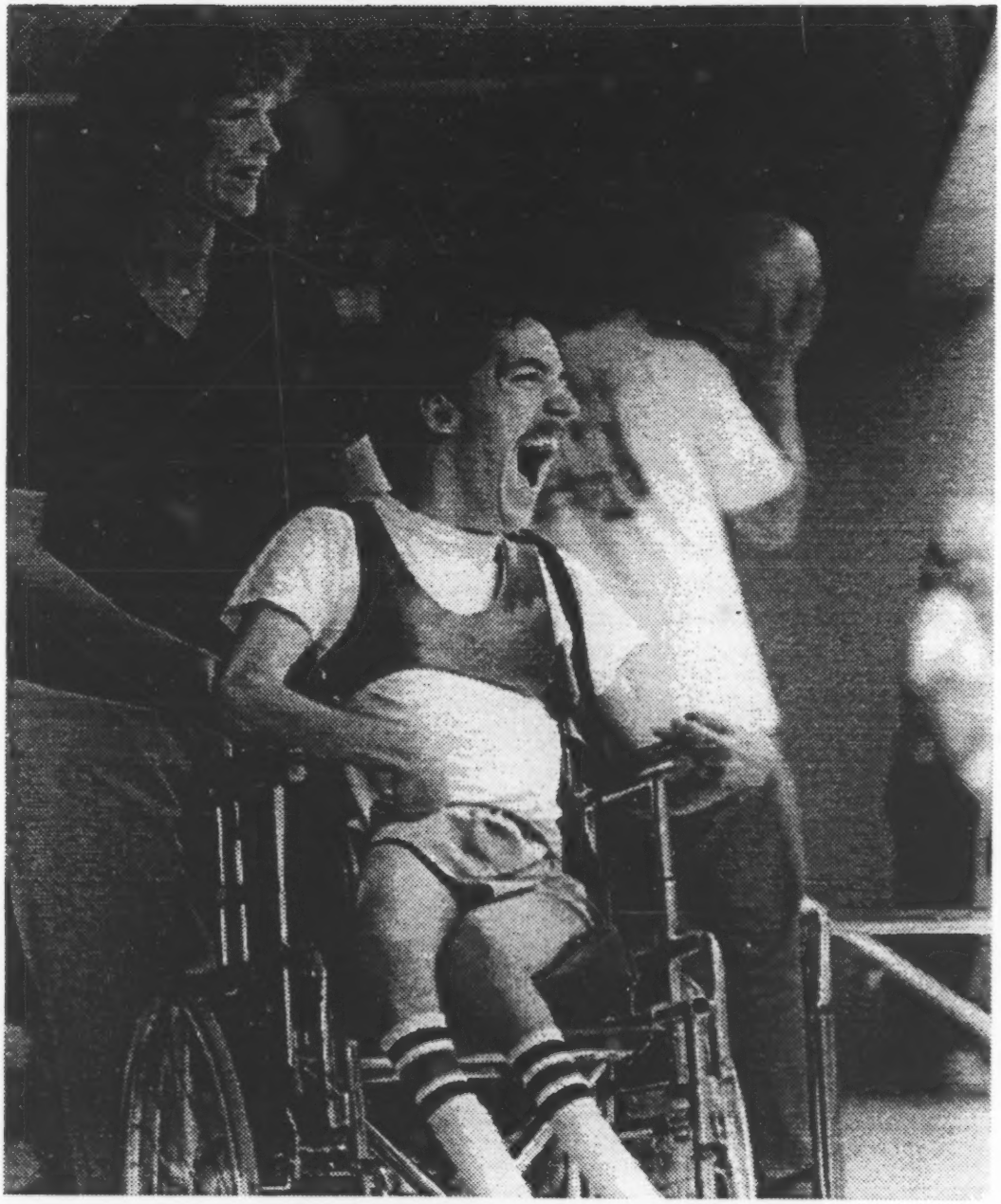




Notes

1. Have available for people to handle a number of examples of adaptive equipment used for eating/feeding activities. These should include several versions of bowls, plates, spoons, forks, cups and glasses.

2. Explain how the various pieces of equipment work, and allow students to examine them.



Course Summary

Format

Lecture

Time

15 minutes

Materials

Student handouts for course

Notes

1. Hand out all of the handouts for this session, including copies of overheads and copies of glossary, resources and addendum, if appropriate.

2. Summarize the main points of the course, asking for student input.

SESSION 1

A. OVERHEAD 1

C. OVERHEADS 2 – 4

D. OVERHEADS 5 – 15

F. OVERHEADS 16 – 25

SESSION 2

B. OVERHEADS 26 – 27

D. OVERHEADS 28 – 30

"IT IS NOT ENOUGH TO GIVE

THE HANDICAPPED LIFE.

THEY MUST BE GIVEN

A LIFE WORTH LIVING."

— Helen Keller

"POSITION

IN LIFE

IS EVERYTHING!"

THERAPEUTIC POSITIONING BENEFITS
AT LEAST THE FOLLOWING:

- Cardiopulmonary function
- Elimination
- Vision
- Head control
- Use of arms
- Trunk control
- Function of oral structures
- Prevention/reduction of deformities
- Mobility
- Symmetrical posture
- Attentiveness
- Vocational activities
- Normalization of muscle tone
- Control of abnormal movements
- Improvement of self concept
- Nursing care
- Communication
- Independence in self care

MOST IMPORTANTLY,
THERAPEUTIC POSITIONING
FACILITATES THE COMFORT OF THE
PERSON WHO HAS DEVELOPMENTAL
DISABILITIES

AND

THE QUALITY OF LIFE
OF THAT PERSON AND HIS OR HER
PRIMARY CAREGIVERS.

BASIC PREMISES

BEHAVIOR SHOULD BE AGE APPROPRIATE.

For example: Sitting at 6 to 8 months
Crawling, walking at 15 to 18 months

BEHAVIOR SHOULD BE CONDITION APPROPRIATE.

For example: A wheelchair that doesn't tire user out

Different wheelchairs for different purposes

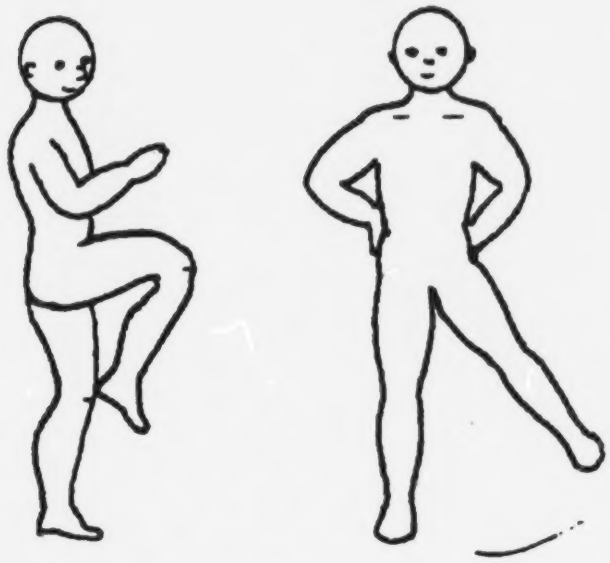
THERAPEUTIC LIFESTYLES SHOULD BE PROMOTED.

For example: Therapeutic positioning while bathing, dressing, playing, etc.

DEVELOPMENT TRENDS

- Movements go from mass excitation (large, involuntary) to ones controlled voluntarily.
- Trunk develops before extremities.
- Head control develops before foot control.
- Gross motor control develops before fine motor control.

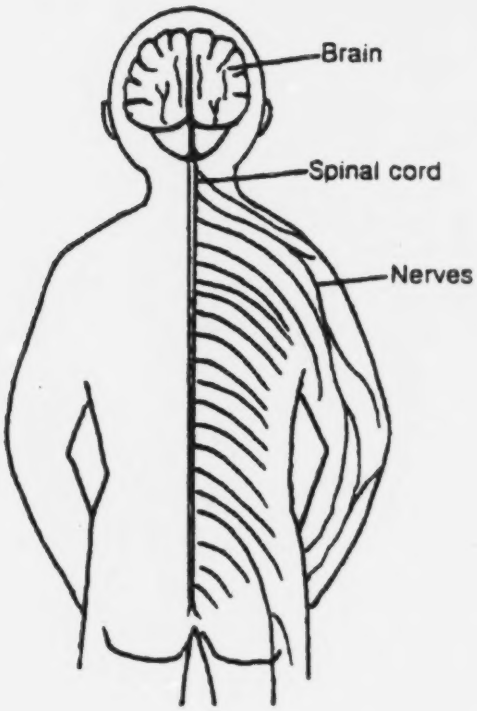
COMPONENTS OF MOVEMENT



- MOBILITY
  Body is either in motion or not in motion.

- STABILITY
  Fine movements can occur only when body is stable.

POSITION AFFECTS DEVELOPMENT OF NERVES, MUSCLES, AND BONES.



EXAMPLE: Baby learns to hold head up while lying on stomach.

FACTORS DETRIMENTAL TO FUNCTION

- Abnormal reflexes
- Abnormal muscle tone
- Skeletal deformities
- Abnormal placement of organs

ABNORMAL REFLEXES

ATNR (asymmetrical tonic neck reflex)

STNR (symmetrical tonic neck reflex)

POSITIVE SUPPORTING REACTION

TONIC LABYRINTHINE SUPINE

TONIC LABYRINTHINE PRONE

ABNORMAL MUSCLE TONE

TOO MUCH TONE:

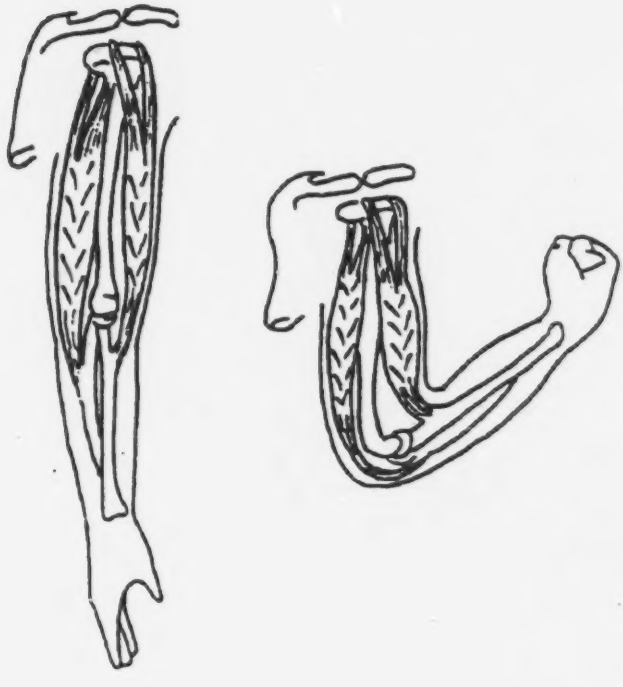
HYPERtonia

TOO LITTLE TONE:

HYPOtonia

BOTH ARE DETRIMENTAL.

SKELETAL (BONE) DEFORMITIES



Can limit movement and muscle function

Can affect internal organs

ABNORMAL PLACEMENT OF ORGANS

Congenital

Acquired

EQUIPMENT SOURCES

- Off-the-shelf (commercially available)
- Modified off-the-shelf
- Customized
- Customized using commercial kits

CATEGORIES OF EQUIPMENT

PILLOWS, SHEETS, BLANKETS

- Old "push and shove" approach
- Never stays in place
- Should not be considered

METAL, WOOD/FOAM, PLASTIC/FOAM, OR CARDBOARD/FOAM

- Generally most expensive
- Ineffective approach
- Effective pieces commercially available

PLANAR ADJUSTABLE SYSTEMS

- Example: Rifton

MODULAR SYSTEMS

- Example: CP seat

MOLDED SYSTEMS

- Vacuu-form
- 1-step vacuum consolidation (example: DESEMO)
- 2-step vacuum consolidation (example: Contour-U)

ORTHOTIC APPROACH

- Gillette seating orthosis

SHAPEABLE MATRIX

HYBRIDS

GENERAL RULES OF POSITIONING

1. Must be interdisciplinary

2. Must provide stability where needed

3. Must inhibit abnormal motor behaviors

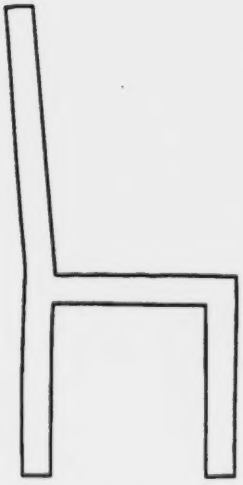
4. Must assure optimal alignment of body parts

5. Must have gravity work for the person

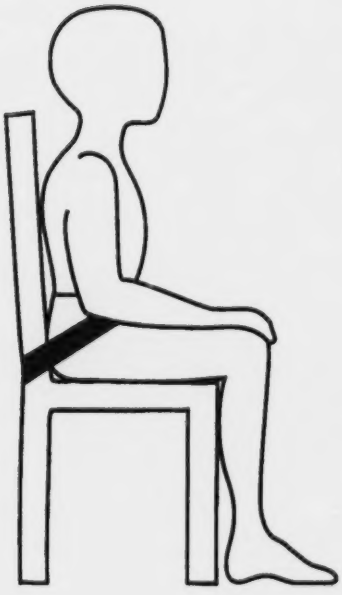
OVERALL, ALL POSITIONS SHOULD:

- Be comfortable for relatively long periods of time (1 to 4 hours).
- Be symmetrical, if possible, with equal weight bearing on both sides.
- Normalize tone as much as possible.
- Allow for more normal movement and function.
- Allow EITHER practice in more advanced motor skill OR practice in cognitive, language, or fine motor skills

SITTING PRINCIPLES:

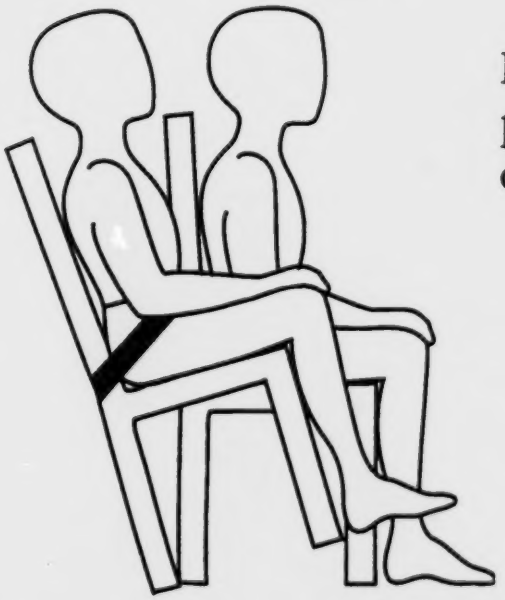


Chair seat and back should be firm.



The individual's buttocks should be well back in the seat and the pelvis should be anchored with a non-stretch belt which bisects the seat/back angle.

Provide support and stability to the feet. Feet must be supported; they provide balance and some degree of trunk extension.



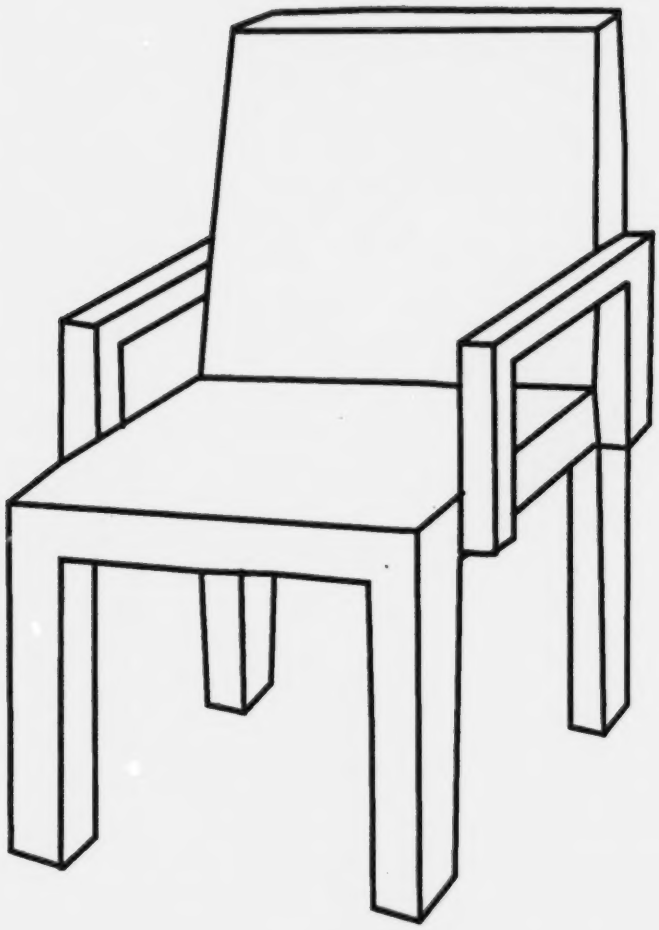
Find the optimal position in space or "tilt in space."

If extension throughout the whole body predominates or if extension is a problem at the hips, try placing a roll or a wedge under the knees.

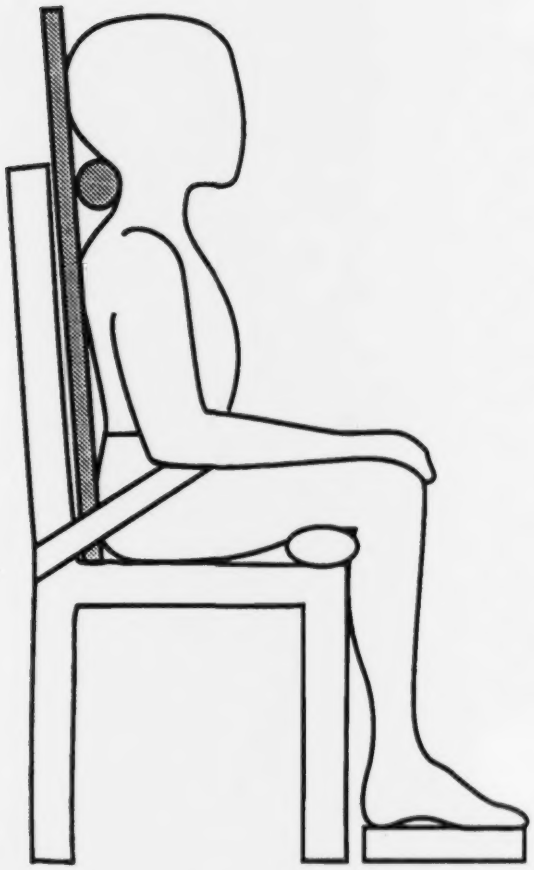
That may change the foot to support surface position, so be sure to increase the height of foot support if you find that true.

Place a roll under the upper part of the pelvis to assist with reducing the extensor tone (lumbar roll).

Place a small roll or a piece of foam between the knees if they tend to lock together, cross, or pull together with speech or hand activities. For most comfort, the abductor piece should go no further than 1/3 the distance from the knees to the crotch and should not be touching pelvis.



Using a chair with arms will permit the use of foam supports to assist in keeping the trunk upright and supported symmetrically.



Assistance with head control is often necessary. For the individual with head control problems, an extended back is important. Rarely are "BLINDERS" necessary; if you find yourself trying to keep the head from falling sidewards, look again at your stabilization of the pelvis, the trunk and the legs.

Both the height of the table or tray being used for activity are useful for breaking up abnormal patterns and providing some trunk control.

CONSIDERATIONS FOR POSITIONING

- PEERABILITY:

  Fitting in well with peers

- COLOR:

  Surrounding person with colors that enhance his/her attractiveness

- STALL FOR TIME:

  Allowing enough reaction time in simulations

- INDIVIDUAL NEEDS:

  Putting individual's needs first

- 24-HOUR DAY:

  Considering individual's position around the clock

CHRONOLOGY OF SERVICE DELIVERY MODELS

1. TREATMENT/TRAINING MODEL

Treatment provided by therapist half to full hour 1-3 times weekly

2. PARENT TRAINING MODEL

Parent/primary caregiver trained to provide therapy; treatment time increased, but still relegated to certain hours in week

3. THERAPEUTIC LIFESTYLE MODEL

Interdisciplinary; therapy applied 24 hours a day, 7 days a week

4. FAMILY THERAPEUTIC LIFESTYLE MODEL

Therapeutic for both individual with disabilities and his/her family around the clock

POSITIONS

- PRONE:
  Lying face down or on stomach

- PRONE ON WEDGE:
  Lying face down; body supported on an incline

- SUPINE:
  Lying on the back

- SIDELYING:
  Lying on right or left side

- STANDING:
  Body upright in relatively straight line

- STRADDLING A BOLSTER:
  Sitting astride a rounded-top bolster

POSITIONING CONSIDERATIONS FOR DINING

ENVIRONMENT:

- Prevent overstimulation of sensory systems
- Small-sized rooms/rooms with sound and visual barriers
- Tables for 2 to 6 people
- Encourage interaction
- Therapeutic background music

PHYSICAL ABNORMALITIES:

- Eating requires coordinated fine movements
- Abnormalities that interfere with eating:

  Abnormal muscle tone
  Abnormal reflex behavior of the body
  Abnormal reflex behavior of oral area
  (e.g., gag, bit reflexes)
  Skeletal deformities
  Abnormal location of internal organs

POSITION/COMMUNICATION OF CAREGIVER:

- Caregiver in front of or behind and slightly to the side of person
- Caregiver explains food and eating process
- Allow person to use communication system

FOOD PLACEMENT:

- Precise placement of utensils and food in mouth
- Placement should be prescribed by interdisciplinary team

CHARACTERISTICS OF FOOD:

- Best consistency for each individual
- Best temperature for each individual

FEEDING UTENSILS:

- Use utensils, bowls, plates, etc., designed for individual's needs

GLOVES:

- Caregiver should wear rubber gloves

REMEMBER!

MEALTIMES SHOULD

AND CAN BE

PLEASANT FOR ALL INVOLVED!

Generic Positioning

GENERIC POSITIONING

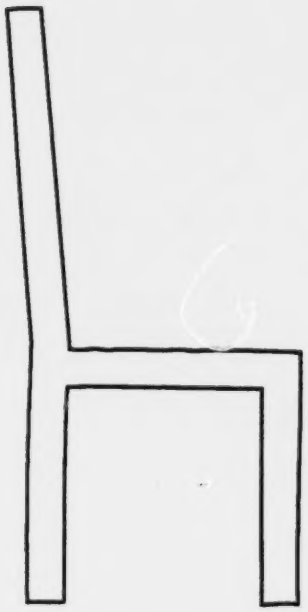
All therapeutic positioning can be reduced to rather basic, generic principles. These can be applied to seated positioning, positioning for prone and supine lying, positioning for sidelying, and positioning for kneeling and standing.

When the individual is unable to be positioned and maintain general ideal positions, there are relatively simple generic interventions which can improve the position. There are many commercial alternatives which might provide the positioning intervention, but it is the intent of this handout to provide you with generalities which can be achieved in the classroom or in the home simply and inexpensively.

You may be able to adapt any position rapidly for a short duration with the use of foam modules and other simple, readily available equipment which will be described at the end of this section.

OVERALL, ALL POSITIONS SHOULD:

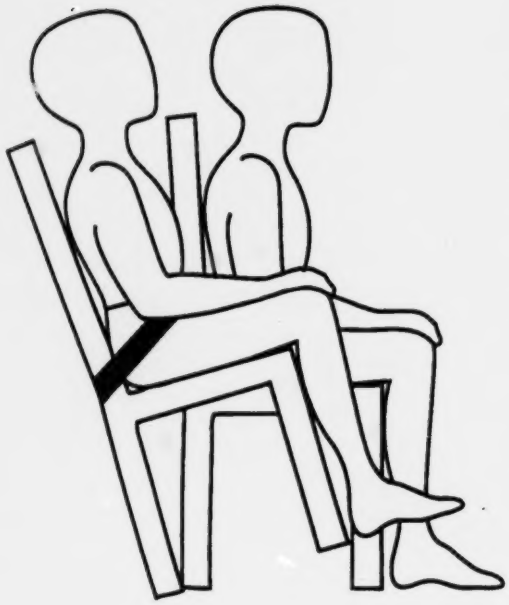
- Be comfortable for relatively long periods of time (1 to 4 hours).
- Be symmetrical, if possible, with equal weight bearing on both sides.
- Normalize tone as much as possible.
- Allow for more normal movement and function.
- Allow EITHER practice in more advanced motor skill OR practice in cognitive, language, or fine motor skills.



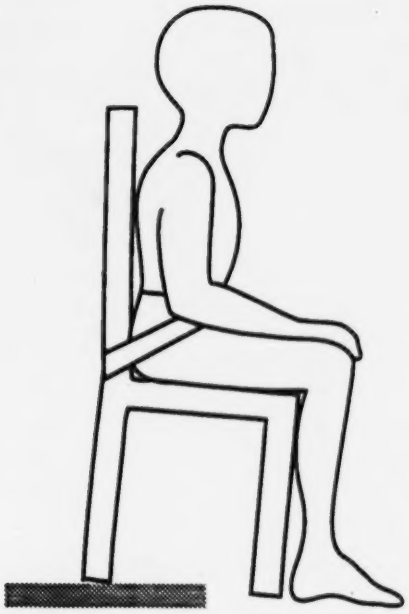
Chair seat and back should be firm.

The individual's buttocks should be well back in the seat and the pelvis should be anchored with a non-stretch belt which bisects the seat/back angle.

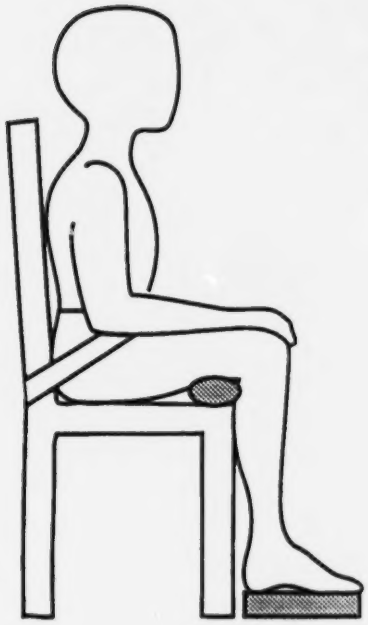
Provide support and stability to the feet. Feet must be supported; they provide balance and some degree of trunk extension. If the feet will not reach the floor or the foot supports of the wheelchair, support can be provided by placing blocks or books under the feet. If additional stability is required, place soft sand bags across the feet or provide heel bars or loops and straps across the instep.



Find the optimal position in space or "TILT IN SPACE". Usually, tilting the chair back increases extensor muscle tone while keeping the chair straight up may cause decreased extension and involuntary falling forward. For some individuals, we have found that tilting the chair forward helps to increase extensor tone for low tone individuals. Try the tilt of the chair at several points between back and forward until optimal muscle tone is reached, then wait to see how the tone changes over time. The amount of time needed for the individual's body to respond to the change will vary.

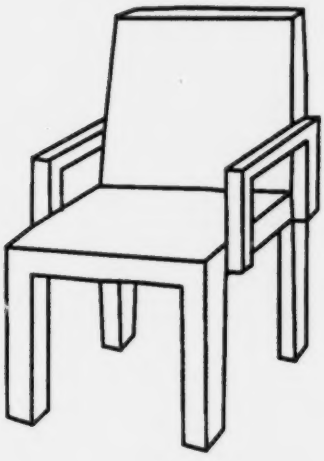


If extension throughout the whole body predominates or if extension is a problem at the hips, try placing a roll or a wedge under the knees. That may change the foot to support surface position, so be sure to increase the height of foot support if you find that true.



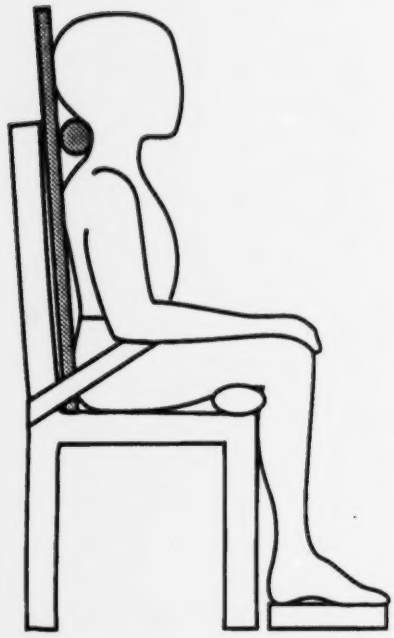
Place a roll under the upper part of the pelvis to assist with reducing the extensor tone (lumbar roll). This intervention is often effective in assisting individuals with very low muscle tone in achieving a more erect posture.

Place a small roll or a piece of foam between the knees if they tend to lock together, cross, or pull together with speech or hand activities. The size of this abductor wedge will vary from individual to individual in assisting with optimal tone normalization. For most comfort, the abductor piece should go no further than 1/3 the distance from the knees to the crotch and should not be touching pelvis.

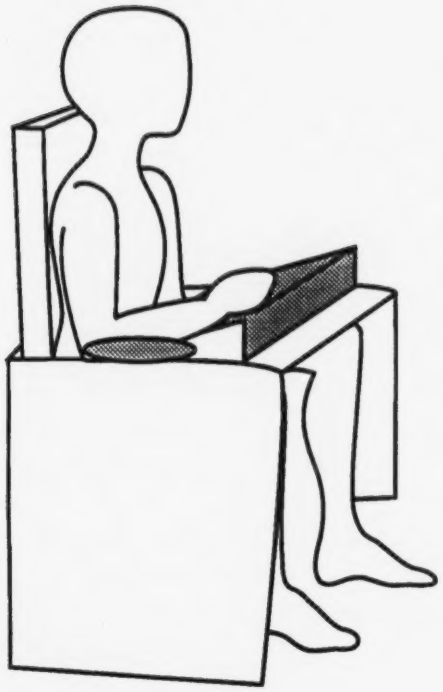


Using a chair with arms will permit the use of foam supports to assist in keeping the trunk upright and supported symmetrically.

Assistance with head control is often necessary. For the individual with head control problems, an extended back is important. At times, simply the addition of a high back gives adequate head support. If more is needed, use your hands to assist the individual in achieving head control, then mimic your hands with foam supports. Rarely are "blinders" necessary; if you find yourself trying to keep the head from falling sidewards, look again at your stabilization of the pelvis, the trunk and the legs.



Both the height of the table or tray being used for activity are useful for breaking up abnormal patterns and providing some trunk control.



A portable easel can be used to accomplish a tilt and foam bumpers can be used to prevent the arms from extending off the side of the table or tray.

These suggestions were intended to provide you with a group of short-term, temporary positioning interventions which can be incorporated into definitive positioning solutions for individuals. Following are an address and patterns for ethafoam temporary positioning blocks. When prepared with velcro hook on one surface, these blocks can be used successfully to position an individual for activity for a short period of time.

FOAM MODULES

(scale: 1 sq. = 1")

a.	SMALL ABDUCTOR	Cut 2 and bond
b.	LARGE ABDUCTOR	Cut 2 and bond
c.	SMALL ABDUCTOR WEDGE	Cut 2 and bond – make two of these
d.	LARGE ABDUCTOR WEDGE	Cut 2 and bond – make two of these
e.	LARGE LATERAL SUPPORT	Cut 3 and bond – make two of these
f.	SMALL LATERAL SUPPORT	Cut 2 and bond – make four of these
g.	HEAD SUPPORT	Cut 2 and bond – bond with hot glue

CONCEPT DEVELOPED BY: Joan S. Bergman, Ph.D, PT
HANDOUT DEVELOPED BY: Judith E. Drews, Ph.D, PT Sparks Center for Developmental and Learning Disorders, University of Alabama at Birmingham Box 313; University Station Birmingham, AL 35294 August 1988

"QUICK AND DIRTY" POSITIONING

Materials to have on hand:

- Several sizes of straight, sturdy chairs with arms
- Plywood or firm foam back and seat inserts for each chair
- Low nap carpeting on seat and back surfaces (to act as "velcro" loop)
- Ethafoam; available from:

  MCP Industries
  907 10th Ave NE
  Decatur, AL 35602
  1-800/241-2075

- Blocks for foot support
- Belts to secure pelvis
- Harness/vest for trunk stabilization
- Rolls of soft foam or towels to go under knees, behind pelvis, behind shoulders or head
- Pieces of firm foam for back, trunk, arm support
- Adhesive-back velcro
- Blocks for under table legs, chair legs for tilt
- Sandbags for feet, thighs
- Electric kitchen knife
- Hot glue gun and pellets

SEATING PROBLEMS AND POSSIBLE CAUSES: P. Murphy 1983 Bergman

AREA	PROBLEM	POSSIBLE CAUSES
Pelvis	ANTERIOR TILT	Hypotonia/Hypertonia
		SYM Tonic neck reflex – being used to develop trunk extension
		Shortening of low back extension
		Poor abdominals
		Hip flex contractures
		Improper positioning in seat
		Lap belt improperly located – 2nd required across anterior supine iliac crests
		Seat depth too short & child's base of support too forward
		Location of footrests
	LATERAL TILT	Pelvis asymmetrical due to: muscle tone, scoliosis with pelvic obliquity,hip dislocation or subluxation
		Poor positioning in seat
		Also look at seat base – "hammock effect of material"

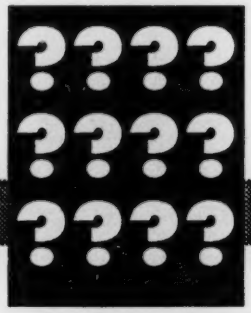
AREA	PROBLEM	POSSIBLE CAUSES
Pelvis	POSTERIOR TILT	Hypotonia/Hypertonia
		Tonic Lab. reflex – flexed posture
		Limited hip ROM – flex
		Tight hamstrings
		Improper positioning in seat
		Lap belt located too high
		Seat too long – footrests preventing knee flex
Trunk	LATERAL FLEXION	Asymmetrical tone Scoliosis – structural fixed deformity
		Pelvis not in midline
		Reflex involvement – i.e. ATNR

AREA	PROBLEM	POSSIBLE CAUSES
Trunk	FORWARD TRUNK FLEXION	Hypotonus
		Posterior pelvic tilt
		Kyphosis – fixed deformity
		Improperly reclined seat & child trying to sit upright
		Tonic Labyrinthine reflex influence
		Rotated Trunk
		Asymmetrical tone in trunk
		Leg length discrepancy not accommodated
Shoulders	RETRACTION	Hypertonus
		Compensation for poor trunk control Reflex influence – Tonic Lab., ATNR
	PROTRACTION	Hypotonus/Hypertonus
		Compensation for poor head & neck control
		Kyphosis
		Reflex involvement – Tonic Labyrinthine

AREA	PROBLEM	POSSIBLE CAUSES
Shoulders	ELEVATION	Hypertonus
		Compensation for poor head & neck control
		Arm rests too high
Head & Neck	HYPEREXTENSION	Extensor hypertonicity
		Poor flexor control
		Reflex involvement – Tonic
		Labyrinthine ATNR, STNR
		Improper position of neck/head support (i.e. head rest placed on occiput)
		Head/neck collar placed too low
	FLEXED FORWARD	Weak neck musculature
		Enlarged occiput (hydrocephalus)and head resting against support pushes forward
		Chair too reclined & head attempting to right
		Headrest improperly positioned
		Reflex influence – Tonic Labyrinthine

AREA	PROBLEM	POSSIBLE CAUSES
Head & Neck	FLEXED FORWARD (continued)	Kyphosis
		Lap tray too low to work
		Lateral Neck Flexion – Poor head control – no righting to midline
		Compensation for lateral trunk flex or
		Compensation for increased muscle tone on one side of neck
		Sensory deficits
		Reflex influence – i.e. ATNR
Hips	EXTENSION/ADDUCTION INTERNAL ROTATION	Reflex influence – Tonic Lab. Positive support
		Extensor thrust
		Dislocated hip
		Seat too short
		Seat belt too long or poorly positioned
	FLEXION/ABDUCTION	Hypotonia
		Abductor releases

AREA	PROBLEM	POSSIBLE CAUSES
Knees	FLEXION	Flexion Contractures
		Increased flexor tonus
		Sitting balance insecure & child trying to maintain upright
	EXTENSION	Increased extensor tonus
		Seat depth too long
		Extension contractures
Feet	PLANTAR FLEXION	Extension pattern
		Positive supporting reaction
		Heelcord tightness/contractures
		Footrest too low
	INVERSION/EVERSION	"Same as above"



Glossary

AN EXPLANATION OF THE TERMS USED IN THIS COURSE.

Caregiver Anyone (parent, grandparent, sibling, aide, professional) who provides hands-on care for an individual

Dorsiflexion Angle of the ankle is decreased, foot moves up in the direction of the body

Extensor Pattern Body and limbs straighten (also called extension pattern)

Facilitate Aid

Flexor Pattern Body and limbs curl up (also called flexion pattern)

Hypertonia, Hypertonic Increased muscle tone

Hypotonia, Hypotonic Decreased muscle tone

Inhibit Reduce or eliminate

Mobility To move from one place to another

Opisthotonos Total body pattern of extreme hyperextension

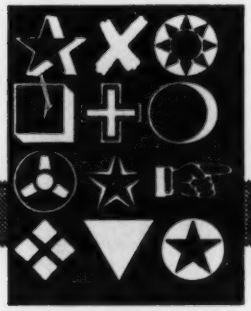
Plantar Flexion Toes and foot point down away from the body

Prone Facelying (lying on tummy)

Reflex Response Involuntary response of the body to stimulation; abnormal reflex response – response is not age appropriate

Supine Backlying

Therapeutic Positioning The use of materials, equipment, furniture, or a caregiver's body to place the body of another in a position for improved function. This position is one which the individual cannot assume or maintain independently.



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Videotape

TITLE: A NEW WAY OF THINKING

PRODUCER: Minnesota Governor's Planning Council on Developmental Disabilities & Minnesota UAP on Developmental Disabilities (1988)
300 Centennial Office Building
658 Cedar Street
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TITLE: EATING COMES NATURALLY (One of three parts)

PRODUCER: Physical Therapy Division
Sparks Center
University of Alabama at Birmingham
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PRODUCER: Minnesota Governor's Planning Council
on Developmental Disabilities (1990)
300 Centennial Office Building
658 Cedar Street
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(612) 296-4018

TITLE : REGULAR LIVES

PRODUCERS: Tom Doodwin & Geraldine Wurzburg
(1988) Syracuse University
WETA Educational Activities
P.O. Box 2626
Washington, D.C. 20013

TITLE: TECHNOLOGY WITH RICHARD DODDS

PRODUCER: Kittelson & Leadholm
Minnesota Governor's Planning Council
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TITLE: TOOLS FOR LIFE.

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Disabilities & Minnesota UAP on Developmental Disabilities (1988)
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TITLE: VALUE-BASED SKILLS TRAINING CURRICULUM

PRODUCER: Meyer Children's Rehabilitation Institute
Title XX Training Project
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Positioning Equipment Resources:

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Addendum

Positioning, Turning and Transferring

VALUE-BASED SKILLS
TRAINING CURRICULUM

Produced by:

Meyer Children's Rehabilitation Institute
Title XX Training Project
University of Nebraska Medical Center
Omaha, Nebraska

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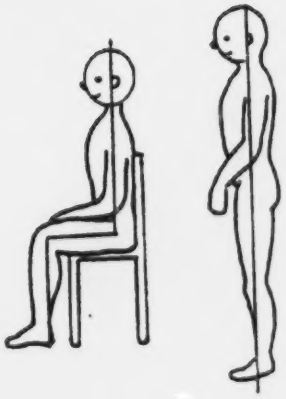
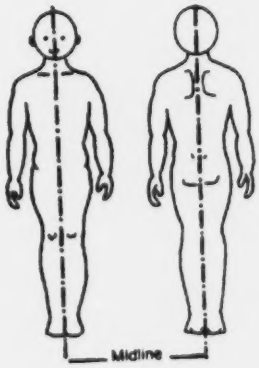
LESSON I: POSTURE, MUSCLE TONE, AND RANGE OF MOTION

Posture = Alignment

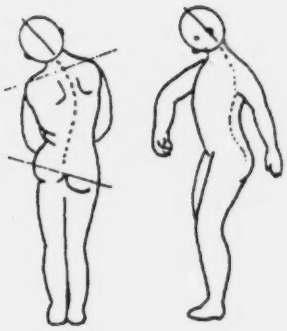


Our ability to move allows us to assume many different body positions. We can lie down, sit up, and stand, to name only a few. The total alignment of the body in any position is called posture. The ideal posture is one in which the head is centered and upright above the body, the spine is straight, and the arms and legs are balanced on either side of the body. This ideal, balanced alignment of body parts is referred to as symmetrical posture.

Symmetrical Posture



Ideally, regardless of the position, if we could draw an imaginary straight line lengthwise through the body, the body parts would appear balanced on either side of the line. (The position of this imaginary straight line is referred to as midline.) The ability to assume and maintain symmetrical posture is necessary for efficient movement. When there is no neurological damage, and when muscles, bones, tendons, and joints are healthy, symmetrical posture can be attained and maintained in a variety of positions.



Asymmetrical Posture

An asymmetrical posture is the opposite of a symmetrical one. If we were to start at the top of the head and draw an imaginary straight line lengthwise through the body of a person who is in an asymmetrical posture, the body parts would appear unbalanced on either side of the line. The position of the head affects the position of other body parts. When the head is not centered above the body, the spine can curve, and the arms and legs assume unbalanced positions along the midline. If a person is allowed to remain in asymmetrical postures, functional movement will be inhibited and deformities can occur.

Obviously, most of us do not constantly sit, stand, or lie in perfectly symmetrical postures. Your spine is not always perfectly straight, and each individual body part is not always perfectly balanced with its opposite part.

Adjustments are automatic

However, after you have held an asymmetrical posture longer than is good for you or comfortable, your body gives you signals of discomfort. You respond by making adjustments without even thinking about them . . . adjustments that tend to pull your body into a more symmetrical alignment.

Disabilities need balanced posture

Persons with severe physical disabilities may not be able to make these adjustments independently. Therefore, in all of the positions they assume in the activities of daily life, it is important that persons with disabilities maintain postures that are as close to symmetrical as possible.

Review #1

WITHOUT LOOKING BACK AT THE TEXT, TRY TO ANSWER THE FOLLOWING QUESTIONS:

1. _____ refers to the alignment of our body parts.

2. A balanced posture is referred to as being _____.

3. An unbalanced posture is referred to as being _____.

4. An asymmetrical posture occurs when the

   _____ is not _____ over the body.

LOOK AT THE PICTURES BELOW. WRITE UNDER EACH PICTURE WHETHER OR NOT IT SHOWS A SYMMETRICAL POSTURE.

5._____ 6._____ 7._____

MUSCLE TONE

Muscle Tone = Constant Tension

Healthy muscles possess a certain amount of constant tension, called muscle tone. Muscle tone is the guiding force in the ability to attain and maintain symmetrical posture, and to flex and extend body parts.

Tone Gives Support

Even when healthy muscles seem to be completely relaxed, they actually possess a certain amount of tension, or tone. The correct degree of muscle tone provides support to the body parts so they can be maintained in any desired position. If there is not enough muscle tone, body parts would collapse. When a person faints, he or she loses adequate tone and the body parts literally cave in. If there is too much muscle tone, the body parts appear rigid. Excessive tone makes it difficult to flex and extend at the joints, and this condition in turn interferes with moving efficiently.

HYPERTONICITY

Muscles Can't Relax

Muscles which have too much tone are described as hypertonic. (Hyper means more.) A person with hypertonicity has a difficult time controlling movement and changing positions because the rigid state of the muscles resists movement. The critical factor in hypertonicity is the muscles' inability to relax appropriately. The muscles contract too much and too often and need assistance in relaxing.

YOU CAN EXPERIENCE HYPERTONICITY.

TRY THIS:

Straighten your arm.

Keep your arm straight and tighten the muscles in your arm.

NOW . . .

Try to bend your arm.

Try to put your hand to your mouth as if trying to feed yourself.

TRY THIS

Stand.

Tighten the muscles in your legs.

Keep your legs straight and your muscles tight.

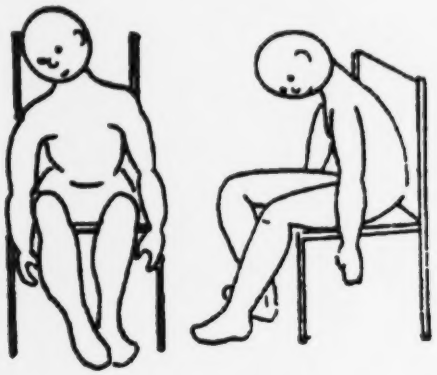
NOW . . .

Try to walk.

HYPOTONICITY

Muscles Too Relaxed

Muscles which have too little tone are described as hypotonic. (Hypo means less.) A person with hypotonicity has a difficult time controlling movement because the relaxed state of the muscles does not provide enough support and strength to move bones. With hypotonicity a person cannot move to attain a desired position and has a difficult time maintaining a position. Hypotonic muscles are too relaxed (without enough contraction).



FLUCTUATING TONE

Tone Constantly Changing

Some persons' muscles constantly fluctuate between too much and too little tone or tension. Like hypertonicity and hypotonicity, this constant state of fluctuating tone makes it difficult for a person to attain and maintain desired positions. The condition of fluctuating tone can cause body parts to move involuntarily and can be observed as continuous uncontrolled movement of head, arms, trunk, and legs.

Balance of Tone is Necessary

The correct balance of muscle tone is responsible for helping us attain and maintain correct postures and move efficiently.

Review #2

Without looking back at the text, try to answer the following questions:

1. The degree of tension in muscles is called _____
2. Muscles with too much tone are referred to as_____
3. Muscles with too little tone are referred to as_____
4. Continuous uncontrolled movement of body parts can be caused by_____

RANGE OF MOTION

Range = Degree of Motion

Correct muscle tone and healthy bones, joints, and tendons allow us to move our body parts in many different directions - up, down, and around. There is a normal or full range of motion for each joint. Range of motion of an individual joint is measured by its degree of movement. Some persons can move their body parts through an extraordinary range. However, if a person cannot move his or her body parts through the standard range of motion, or if the body parts cannot be moved by someone else through the full range of motion, we say the person has limited range of motion. Limited range of motion is most often the result of abnormal muscle tone or deformities.

Review #3

WITHOUT LOOKING BACK AT THE TEXT, TRY TO ANSWER THE FOLLOWING QUESTIONS:

1. The degree to which joints, combined with muscles, can move is called _____.

2. Inadequate range of motion is called _____.

POTENTIAL PROBLEMS

Abnormal muscle tone, asymmetrical postures, and limited range of motion all affect one another. If you have too much or too little tone in part or all of your body . . .

YOUR POSTURE WILL BE AFFECTED, which will

LIMIT YOUR RANGE OF MOTION, which will

LIMIT YOUR TOTAL MOVEMENT, which will

AFFECT YOUR MUSCLE TONE, which will

AFFECT YOUR POSTURE, which will

LIMIT YOUR RANGE OF MOTION, etc., etc., etc.

THIS CYCLE OBVIOUSLY RESULTS IN LIMITED OR ABNORMAL MOVEMENT PATTERNS. THESE PATTERNS CAN CAUSE SPECIAL PROBLEMS WHICH REQUIRE ATTENTION.

Why? Because . . .

- limited movement restricts a person's opportunities to learn and develop intellectually, socially, and vocationally.
- limited movement affects the ability of our internal organs to function adequately.
- limited movement may cause deformities which limit movement further and which can be permanent.

HOW DOES LIMITED MOVEMENT CAUSE DEFORMITIES?

Limited movement causes deformities by causing damage to muscles, joints, bones, and tendons.

Muscles Shrink

Muscles which are not sufficiently exercised will eventually shrink in size. This muscle shrinkage is called atrophy. When muscles atrophy, they lose their ability to contract (shorten) and relax (lengthen). As muscle size decreases, so does the muscle's strength. Without proper strength and the ability to contract and relax appropriately, muscles cannot efficiently participate in movement.

Bones Weaken

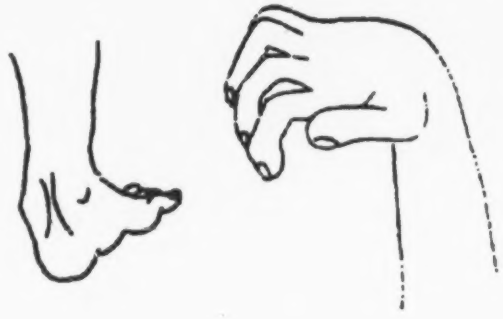
Immobility affects bones in a similar way. The mineral-producing and bone-producing materials begin to deteriorate. When bones are not sufficiently used, they become weak, brittle, and more easily broken. Further, if a child's movement is significantly limited, the bones will not grow properly.

Tendons Shorten

Lack of movement can cause shortening of tendons. The result of tendons beginning to shorten is decreased flexibility in bending, straightening, and turning. With proper exercises, the degree of flexible movement can be improved.

Contractures are Permanent

However, without proper exercise, limited movement can result in a permanent deformity known as a contracture. The term contracture describes joints that are permanently flexed because of shortened tendons and atrophied muscles. Any joint of the body may become contracted. If a contracture is allowed to develop, the person's range of motion at the contracted joint will be permanently inhibited. Contractures are a serious result of lack of movement because they are usually a permanent movement inhibitor.



Joints Become Unstable

Immobility may also cause joints to become unstable and/or dislocate. Joints dislocate when the normal joining points are no longer in contact. These two problems, instability and dislocation, can be aggravated by improper moving or carrying of persons who do not move well by themselves or who have been immobile for long periods of time.

LESSON I SUMMARY

Movement is necessary to the normal growth and development and even survival of all persons. Symmetrical posture, balanced muscle tone, and a flexible range of motion are all necessary conditions for efficient movement.

If any one of these conditions is impaired, it can have serious effects on individual body parts and result in abnormal movement and deformities.

If a person cannot maintain correct posture, muscle tone, or range of motion, it is important for you, the staff member, to recognize the person's need for assistance.

In Unit II you will learn positioning and handling techniques to use with persons who require special assistance.

1. LIST at least three reasons for properly positioning persons.

_____

_____

_____

2. DESCRIBE practices to utilize when working with persons with physical disabilities.

_____

_____

_____

3. DEMONSTRATE with another staff member, under supervision how to properly handle and position someone in:

a. side-lying,
b. supine,
c. prone-resting.

4. LIST the four considerations in deciding when to change a person's position.

_____

_____

_____

_____

REASONS FOR PROPER POSITIONING

Correct positioning is important to everyone because it:

a. increases the efficiency of movement,
b. influences how people perceive us, and
c. helps body parts, internal organs and internal systems to function in a healthy way.

Can Move Constantly

Under normal conditions, you can independently choose and assume a variety of positions which allow you to accomplish almost any task. You can constantly adjust your head, trunk, arms and legs to attain and maintain a symmetrical posture. You can respond appropriately to your body's painful cues.

Persons with Disabilities Run More Risk

For persons with physical disabilities, it's often a different story. Persons with severe disabilities often rely on others to facilitate position variety and functional movement. Some persons require only a little assistance in getting from one position or place to another, while others must rely entirely on someone else.

You Should Recognize Need

As a staff member you need to recognize the importance of proper positioning and do what you can to assist persons in attaining and maintaining proper positions. Now, let's discuss in more detail each of the three reasons for properly positioning persons.

MOVEMENT EFFICIENCY

Position Affects What We Can Do

Your body's position affects what you can do and how well you can do it.

Have you ever been lying on your back and at the same time tried to drink from a glass of water? It doesn't work very well, does it?

Have you ever been lying on your side and tried to write? Oh, you can do it, but can you read what you've written?

Different Positions, Different Tasks

Individual body positions - such as lying, sitting and standing - each allow you to perform different tasks. In general, you can accomplish the widest variety of tasks in the upright position. For instance, in the sitting position you can eat, drink, read, write, play table games, etc. With a lot of work, you might be able to accomplish these same things lying down, but they're certainly a lot easier while sitting or standing.

Positioning Aids Success

Persons with physical disabilities sometimes have a difficult time making their muscles and bones do what they want them to do when they want them to do it. However, just like you, they want the opportunity to experience the world around them and to feel the joy of succeeding. The positions they are placed in can do a lot toward helping them do things successfully.

OTHERS' PERCEPTIONS

Position Affects Others' Views

Your body's position affects what other people think you can do and how well they think you can do it.

Have you ever visited someone who has been lying in a hospital bed for several days, dressed in a hospital gown with nothing to do? You tend to see that person as sick and helpless. Then one day you walk into the room and the person is sitting up in a chair, is wearing a bathrobe, and is looking at a magazine. Do you see the person as sick, or well? Helpless, or more capable?

Positive Position = Positive Attitudes

Persons with physical disabilities often look "DIFFERENT." They may wear braces, sit in wheelchairs, or move in unusual ways. If the person with a disability is lying down rather than sitting or slumped in a wheelchair rather than sitting in a well-aligned posture, other people will tend to see and treat him or her as "DIFFERENT." But if the person with a disability can be assisted to sit in an upright, well-aligned posture, it can positively influence other people's perceptions and attitudes.

HEALTHY FUNCTIONING

Position Affects Body Function

Your body's position affects how well your body parts, internal organs, and internal systems function.

If you are forced to stay in one position too long, you usually begin to feel uncomfortable. On long car trips you begin to feel lethargic, your muscles ache, and your movement is stiff. Just a change in position, from sitting to lying, or from one sitting posture to another, can help.

If you've ever been lying in a bed for several days because of an illness or accident, you know the effects of immobility are even more extreme. You can develop skin sores from lack of air circulating to your skin or from pressure to concentrated points on your body. You may feel dizzy when you try to sit up, and your digestion, breathing, and circulation systems all slow down.

Persons with Disabilities Need Help

The same is true for persons with physical disabilities, but they run the additional risk of developing permanent deformities. The more limited a person's movement, the greater the risk of deformity.

LESSON II: ADAPTIVE POSITIONING EQUIPMENT

OBJECTIVES

When you have completed this lesson, you will be expected to:

1. EXPLAIN when adaptive positioning equipment might be required.
2. DESCRIBE what to do if you think that adaptive positioning equipment is required.
3. DESCRIBE what to do if the person is not maintaining a well-aligned posture.

INTRODUCTION

MANY THINGS CAN BE USED

There are many devices available which can be used to help persons with physical disabilities maintain correct postures. These devices are often referred to as ADAPTIVE POSITIONING EQUIPMENT. When some people hear the words "adaptive equipment" they tend to think only in terms of expensive commercially available materials. Actually, anything you can use to help stabilize a person's body in correct alignment can be considered to be adaptive positioning equipment.

WHEN MIGHT A PERSON REQUIRE ADAPTIVE POSITIONING EQUIPMENT OR EQUIPMENT ADJUSTMENT?

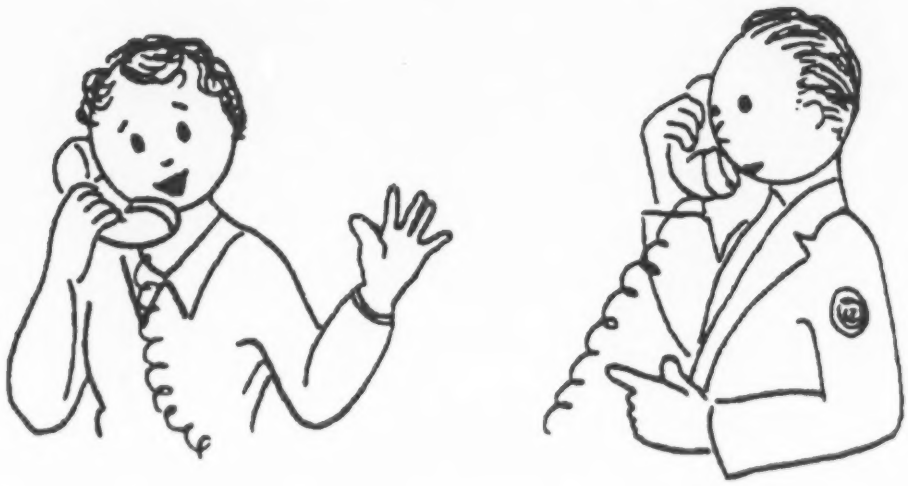
- When a person cannot attain or maintain correct positions.
- When a person cannot produce functional movement and at the same time maintain a well aligned posture.

FOR EXAMPLE:

- If you notice that a person can sit up, but he or she tends to slip to either side,positioning equipment may help.
- If you notice that a person can sit up, but his or her hips tend to slide toward the front of the seat, positioning equipment may help.
- If you notice that a person can maintain a well-aligned posture, but is not able to move adequately to perform tasks, positioning equipment may help.

These are only three specific examples. Remember, any time a person cannot maintain a functional, well-aligned posture, positioning equipment may help.

WHAT SHOULD YOU DO IF YOU SUSPECT A PERSON MIGHT BENEFIT FROM ADAPTIVE EQUIPMENT?



WHAT SHOULD YOU DO?

You should seek help from a clinical specialist (P.T., O.T., nurse, physician). You should describe for the specialist what positions the person has trouble maintaining and ask for help in developing a positioning program.

HOW CAN YOU TELL WHETHER OR NOT ADAPTIVE POSITIONING EQUIPMENT IS DOING WHAT IT IS INTENDED TO DO?

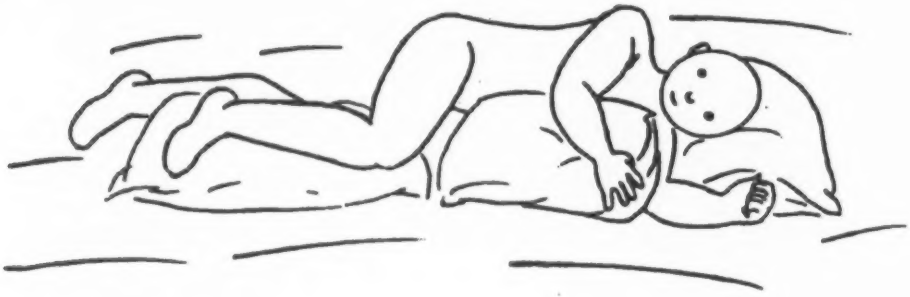
HOW CAN YOU TELL?

The major purpose for using adaptive positioning equipment is to help the person maintain well-aligned, functional positions. You need to monitor whether or not the equipment is serving that purpose.

IN THE SIDE-LYING AND BACK-LYING POSITIONS

Look at the person and determine whether or not

- the head is maintained centered at midline
- The trunk is maintained symmetrical, with the spine straight
- the person has as much use of hands and arms as possible
- the hips and legs are maintained in a symmetrical position.



IN THE STOMACH-LYING POSITION

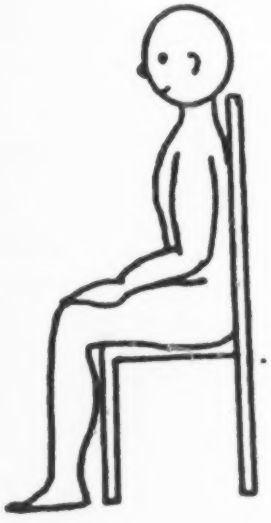
look at the person and determine whether or not

- the head is turned to one side
- the trunk is symmetrical with spine straight
- the hips and legs are symmetrical
- the general muscle tone is relaxed.

IN THE SITTING POSITION

look at the person and determine whether or not

- the hips, knees, and ankles are flexed to 90°
- the feet are flat on a supporting surface
- the head is upright and centered at midline. If necessary, the neck is stabilized to maintain the head in upright, midline position.
- the hips are symmetrical and as far back in the seat as possible

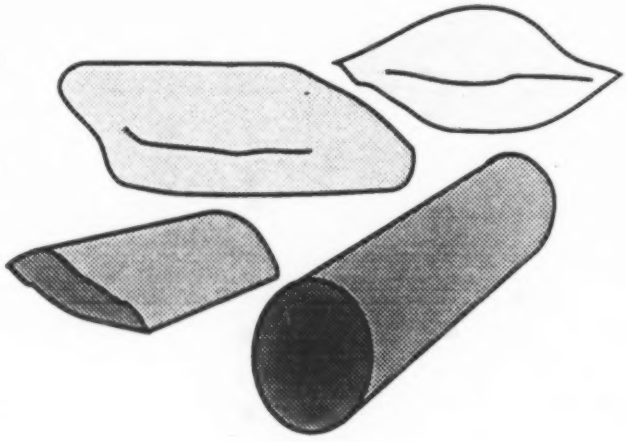


- the depth of the chair seat extends to 1" from the knee
- the trunk is symmetrical and the spine straight
- the forearms and elbows are able to easily rest on a supporting surface.

Try to Reposition

If for any reason you notice that adaptive positioning equipment is not helping the person maintain a well-aligned, functional position, you should attempt to correctly re-position the person in the same position. If repositioning doesn't seem to help, you should next attempt to position the person in a totally different correct position. You should then contact a licensed clinical specialist, such as a physical therapist, and describe the position the person cannot maintain and request assistance.

We demonstrated the use of adaptive positioning devices such as sandbags, pillows, rolled towels, and padded bolsters. We used them to help maintain body parts in correct alignment. Other common materials which can be used to stabilize a person's posture are bean bags, foam wedges, rolled blankets, and sheets. Under the direction of a clinical specialist, and using your imagination, you will often discover that there are a variety of inexpensive positioning devices available for your use.



Specialist Can Prescribe

Sometimes, especially for the sitting position, it is necessary to have a special piece of adaptive positioning equipment. A clinical specialist, such as a physical therapist, should evaluate the person's positioning needs and prescribe an appropriate piece of equipment.

You Should Recognize Need

However, you are the person who may recognize that a client requires positioning assistance and then request an evaluation. You are also one of the people responsible for implementing and monitoring the person's positioning program. Therefore, you need to recognize when positioning devices are not working and ask for additional help from the clinical specialist.

Review #4ß

1. Describe when adaptive positioning equipment might be required.

2. Describe what you should do if you suspect that adaptive positioning equipment is required.

3. Describe what you should do if adaptive positioning equipment does not appear to be assisting the person in maintaining a well-aligned posture.

LESSON III: TURNING AND TRANSFERRING

INTRODUCTION

In order to provide a variety of positions and experiences for persons with severe handicaps, you will often be required to safely turn a person from one position to another or more him or her from one place to another.

For example, say Bill is lying on his back on a mat and it's time to position him on his side. How do you, without injury to yourself or him, get him from his back to his side so you can properly position him? What do you do if you weigh 110 pounds and you need to turn a 160 pound person from his side to his stomach on a twin bed? How do you get a 160 pound man from his bed to a chair? Transfer and turning techniques should be recommended by a clinical specialist. However, there are some GENERAL rules and techniques that will help you safely turn persons from one lying position to another and safely transfer persons from one place to another.

You will read about basic principles of body mechanics and some general rules for safely turning persons from one lying position to another. You will have the opportunity to see proper turning demonstrated and to practice turning techniques with other trainees.

OBJECTIVES

After completing this lesson, you will be expected to:

1. Demonstrate under supervision the correct techniques for turning a person.
    a. from back to stomach without a drawsheet.
    b. from stomach to back without a drawsheet.
    c. from back to stomach with a drawsheet.
    d. from stomach to back with a drawsheet.
2. Identify examples of correct and incorrect body mechanics practices.

BASIC PRINCIPLES OF BODY MECHANICS

Safety Is First Concern

Anytime you are required to move someone, whether you are simply sliding, rolling, or lifting the person, you need to concern yourself with the position and safety of both your body and the person. You need to concern yourself with the position of your feet, arms, and back. You need to be careful to push and pull with the correct muscle groups. You need to arrange the room so you carry the person no further than is absolutely necessary.

Always Practice Basic Principles

The following eight rules of basic body mechanics should serve as a guide to moving clients safely and efficiently. No matter what turning or transferring technique you are required to use, you should practice these basic principles throughout the maneuver. No matter what person or object you're moving, carefully practicing these basic principles will greatly decrease the risk of pulled muscles and tendons and any injury associated with lifting and carrying.

Practice Lifting Heavy Object

Familiarize yourself with the principles. Get a 10-20 pound object and practice lifting it using the principles of body mechanics. You will have the chance to practice them later when specific techniques are demonstrated.

BASIC PRINCIPLES

1. If the object is large and/or heavy, avoid moving it alone.

2. Do not move an object any further than is absolutely necessary. Arrange the surface to which the object is to be moved as close as possible to the surface from which it is to be transferred.

3. Throughout the move, keep your arms and the object as close to your body as possible.

4. Keep your back as straight as possible.

5. Bend at the knees and hips rather than the waist.

6. Keep your feet flat on the floor and spread them about the width of your shoulders. Place one foot back. This foot position gives you a firmer base of support. Your back foot should be used as a pivot base when transferring an object and should be closest to the direction you want to move.

7. Use your whole body when pushing, pulling, or lifting - not just your back and arms.

8. Make your movements smooth.

PRELIMINARIES TO TURNING OR TRANSFERRING

Arrange The Room

Before you actually begin to turn or transfer a person, take a few minutes to be sure the room is properly arranged. You should:

- Arrange the person's room so you will have easy access to both sides of the bed.

- Have positioning devices (pillows, sandbags, etc.) within easy reach.
- Be sure you are standing or kneeling close to the person. Either place your body next to his or hers or slide the person next to you.

TURNING

TECHNIQUE DEPENDS ON YOU AND THE PERSON WITH A DISABILITY

The safest and easiest technique for turning a person from one lying position to another depends on the size and weight of both you and the individual. Do not move someone who is too large or heavy for your size and strength.

FOLLOW SIX BASIC RULES

If you decide it is safe for you to turn the person, then there are six basic rules to follow. No matter which turning technique is used, these six rules should be applied.

1. Practice good body mechanics throughout.
2. If the person lacks head control, be sure the head is supported throughout the turn. (The pillow, bed or your arm may serve as the support.)
3. Roll the person as you would a log. Keep his or her arms close to the body, and keep his or her legs close together.
4. Place your hands on the person's shoulders and hips when performing the turn.
5. Be sure the person's nose and mouth are unobstructed throughout the turn.
6. Maintain physical contact with the person throughout the turn.

TURNING A PERSON FROM ONE LYING POSITION TO ANOTHER

The steps described here will generally work when turning someone from any one lying position to any other.

1. APPROACH the person.

- Approach in a normal manner.
- Stand or kneel so the person can see you.
- In an age-appropriate voice and manner, explain what you're going to do.
- Work from the person's face side.

EXCEPTION:

When turning the person from side to stomach, work from the person's back side.

2. REMOVE stabilization devices.

HELPFUL HINT:

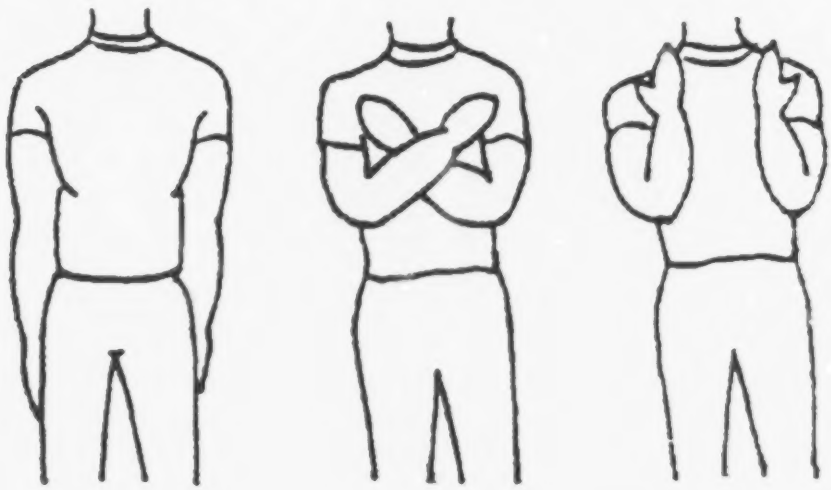
If the person lacks head control or displays primitive reflexes or muscle tone problems, you may find it helpful to leave the pillow in place throughout the sliding and turning process.

3. PRACTICE GOOD BODY MECHANICS, slide the person toward you and near the edge of the bed.

- Slide first one half of the body and then the other half. Either head, arms, and trunk and then hips and legs or vice versa.

UPPER BODY

Place the person's arms close to his or her body. Place the arms straight and as close to the side of the body as possible. This arm position is appropriate for all turns. There are other arm positions which will also work. For example, you might cross the arms over the chest, bend arms toward shoulders, etc. Some arm positions are more comfortable than others, depending on the person and the intended position. You may need to adjust the arm position based on the person's physical problems. Be sure the person does not have to place too much weight on his or her arms.



LOWER BODY

Keep the person's legs together and slightly flexed. This flexed position helps the person maintain a side-lying position and can help reduce excessive muscle tone.

4. TURN the person.

- Be sure the person's body is well-aligned with arms close to body and legs close together.
- With one hand on the person's hip and one on the shoulder, carefully but firmly roll the person to the desired position. If the person is too heavy or large, roll shoulders and trunk first, then hips and legs.
- If necessary, use your hand to stabilize the person until you can properly place stabilization devices.

IMPORTANT VARIATIONS

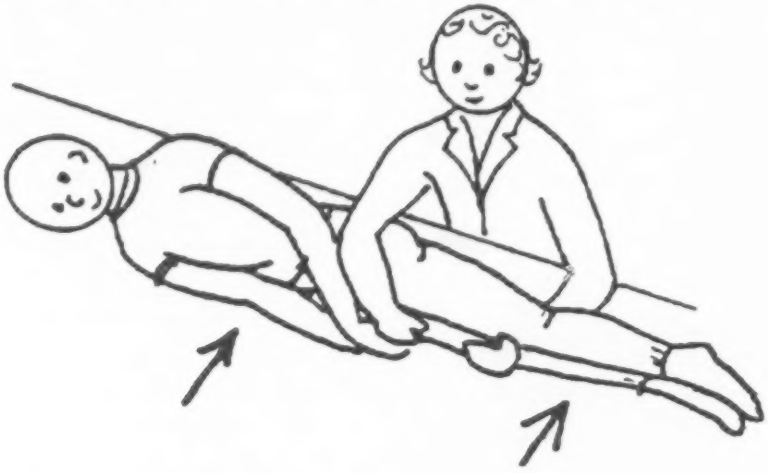
On a narrow surface, turns from back to stomach or stomach to back require these four steps.

1. SLIDE the person to the edge of the bed nearest you.

2. TURN the person to his or her side.

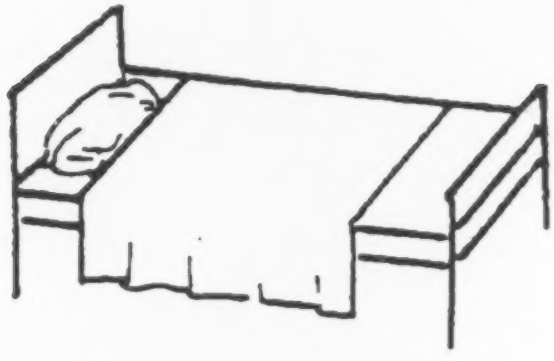
Following these four steps results in the person lying in the center of the bed rather than on either edge.

3. SLIDE the person back to the edge of the bed and THEN



4. TURN the person to back or stomach in the center of the bed.

TURNING PERSONS USING A DRAWSHEET



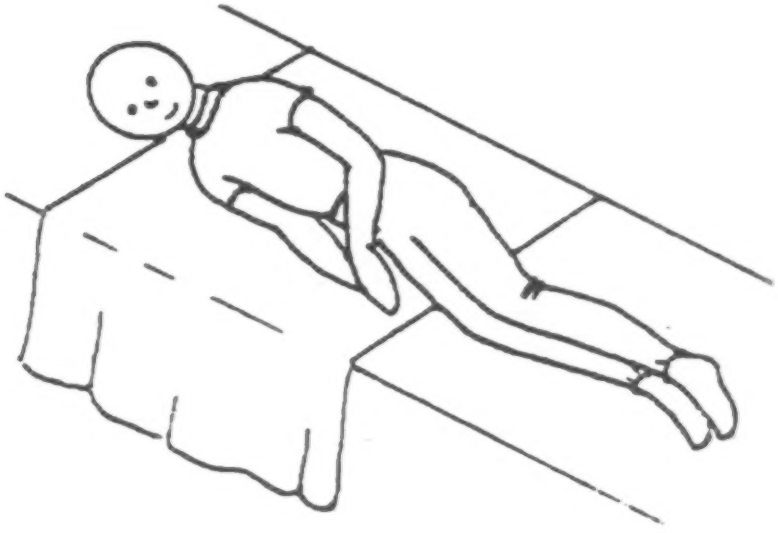
A sheet or blanket folded lengthwise can be used to help slide or turn a person. When used for this purpose, it is often referred to as a drawsheet. A drawsheet is especially helpful when trying to move a large or heavy person. It is also helpful for moving persons with serious physical disabilities because it can reduce the risk of unnecessarily pulling, pushing, or bending sensitive body parts.

THE DRAWSHEET MAY BE USED FOR:

- Sliding the person to the edge of the bed in preparation for turning
- Sliding the person toward or away from the head of the bed
- Turning the person.

The drawsheet is simply a "TOOL" and should be used only if it makes turning easier and safer for you or the person.

A drawsheet is placed across a bed or mat so that when a person lies on it, his or her shoulders and hips are on the drawsheet. You can adjust the width of the fold so that the drawsheet also supports the head, if needed. About three feet of material should extend over each side of the bed, and these ends should be tucked under the mattress when not in use. Use regular colored or figured sheet so that the person's surroundings do not take on a "SICK" hospital-like appearance.



SLIDING A PERSON USING A DRAWSHEET

1. Tightly roll the end of the drawsheet on your side of the bed until it is within a few inches of the person's body.

2. With one hand next to the person's shoulder and one next to his or her hip, grasp the roll.

3. Practicing good body mechanics, use the roll as a handle and firmly pull the drawsheet toward you. Repeat until the person's body is next to the edge of the bed.

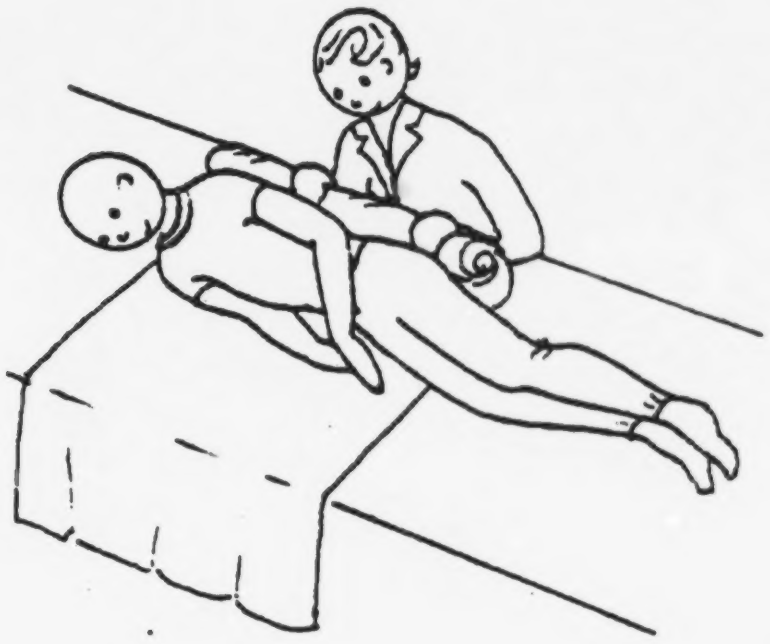
You may now turn the person with your hands or you may use the sheet to turn the person.

SLIDING A PERSON TOWARD OR AWAY FROM THE HEAD OF THE BED USING A DRAWSHEET

This task requires two staff.

1. One person stands on each side of the bed at about the middle.
2. Each staff person rolls his or her side of the drawsheet until it is within a few inches of the person's body.
3. With one hand next to the person's shoulder and one next to the hip, they should grasp the roll.
4. Practicing good body mechanics, and on the count of three they should pull the sheet either toward or away from the head of the bed until the person is lying in the desired position.

TURNING THE PERSON USING A DRAWSHEET



1. Tightly grasp the roll with one hand next to the person's shoulder and one next to his or her hip.

2. Firmly pull up on the roll and use the sheet to turn the person.

CAUTIONS

If using a drawsheet to slide or turn a person on a narrow surface it is a good idea to have another staff member assist you by standing on the opposite side of the surface in case the person accidentally begins to roll. A second staff member can also assist you with the drawsheet by standing on your side of the bed and helping pull on the drawsheet with one hand and steadying the person with the other.

VTR

There is a videotape which demonstrates these turning techniques. Find out where and when to view the tape.

DEMONSTRATION

Keep these written descriptions of the turning techniques handy during the live demonstration and practice session.

LESSON IV: TRANSFER TECHNIQUES

OBJECTIVES

After completing this lesson, you will be expected to:

1. Describe how to find out the proper techniques for transferring a particular person.

2. Demonstrate, under supervision, the correct:

   a) A one-person bed-to-chair transfer

   b) A one-person chair-to-bed transfer

   c) A two-person chair-to-mat transfer

   d) A two-person mat-to-chair transfer

SPECIALIST SHOULD RECOMMEND TECHNIQUES

A number of factors affect how individual transfers should be performed: the weight and size of the person and the staff member, the degree of hypertonicity or hypotonicity, the presence of abnormal and retained reflexes, the amount of weight the person can bear, etc. In order to promote efficiency and prevent injury, the best rule to follow is:

Ask that a clinical specialist recommend and demonstrate transfer techniques which are based on the needs and abilities of the individual.

GENERAL TECHNIQUES

However, there are some general transfer techniques which can be used safely most of the time. Consult with your clinical specialist to see if the needs of the person require adjustments in any of the steps.

APPLY PRINCIPLES OF BODY MECHANICS

Remember to apply the principles of good body mechanics throughout all transfers. Improper lifting and carrying can not only cause injury to the person, it can also cause serious injury to you. DO NOT TAKE CHANCES. If you have a history of back injury, you should not be involved in lifting and carrying persons unless you have consulted with your physician.

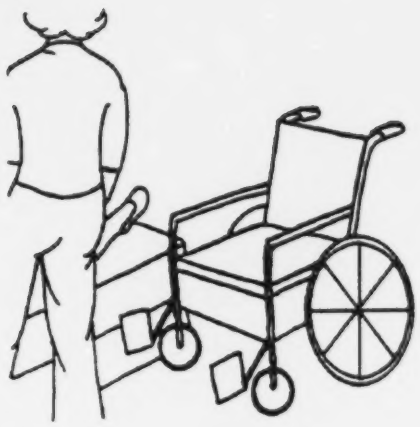
TWO TECHNIQUES

Following is a step-by-step diagram and description of:

1. A one-person bed-to-chair transfer.

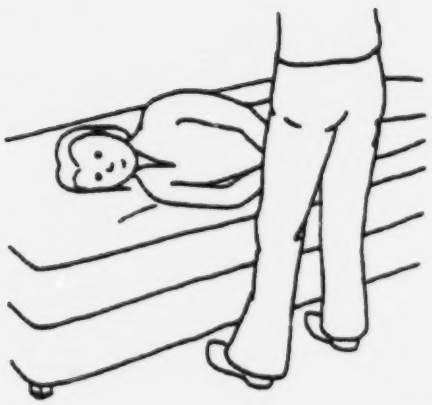
2. A two-person mat-to-chair transfer.

Please study the two techniques carefully. You will have the opportunity to view a videotape and live demonstration of the techniques. You will also be asked to practice the techniques under supervision. You may refer to the diagram throughout the sessions.



ONE-PERSON TRANSFER FROM BED TO CHAIR

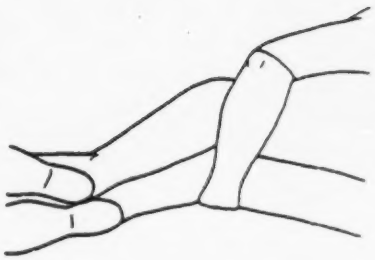
1. Before you begin the transfer, position the chair so that one side of the chair is flush against the bed and the front of the chair is within arm's reach. If you are using a wheelchair, remove the arm rest nearest the bed and fold the foot rest up.



2. Position the person so that he or she is facing you, in a side-lying position, at the edge of the bed. Position yourself close to the edge of the bed with your feet spread approximately the width of your shoulders.

3. Slide one arm under the person's head and cradle the upper part of the person's body. Allow the person's head to rest in the fold of your arm, and place the palm of your hand flat on the person's back.

4. Place your other arm over and around the person's knees and grasp the back of the person's bottom knee.



5. You're now ready to lift the person.

6. Be sure your feet are spread about shoulder width. Bend at your knees, and keep your back as straight as possible.

7. With one continuous motion, simultaneously pull the person's legs toward you and down and raise the person's shoulders. This will raise the person to a sitting position at the side of the bed.

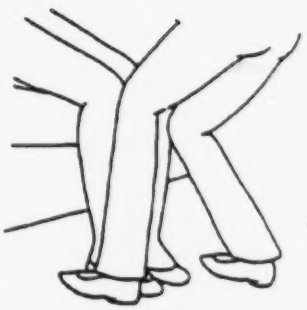
8. Straddle the person's knees and keep the person's upper body close to your own, to maintain a sitting position. If necessary, allow the person's head to rest on your shoulder.

9. With one hand, pull the chair close to your knee. If it's a wheelchair, lock both wheels.

10. Keeping the person's upper body close to yours, slide your arms under the person's arms until you can grasp your wrists or interlock your fingers at the small of his or her back.

11. Bend your knees and hips so that your shoulders are no higher than the person's shoulders. Gently pull your arms toward you to obtain firm contact between the person's upper body and your own.

12. Move your foot which is closest to the chair approximately 6 inches back and bend your knee to maintain contact with the person's leg. Place your weight on your other foot.



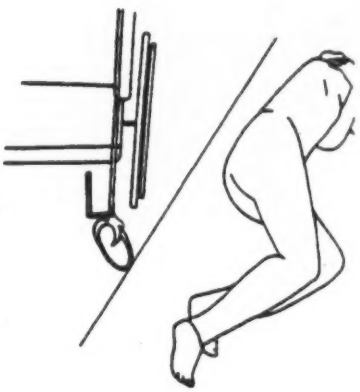
13. With one continuous motion, simultaneously pull the person's body off the bed and shift your weight to your back foot.

14. Pivot toward the chair, and gently lower the person into the chair.

15. Properly position the person in the sitting position.

TWO-PERSON TRANSFER FROM
MAT TO CHAIR

1. Place the chair so it faces the direction of the person's feet. It should be opposite the person's hips and as close as possible to the edge of the mat without interfering with your work area. If you're using a wheelchair, remove the arm rest nearest the mat, fold the foot rests up and lock the wheels.



2. LEADER AND ASSISTANT: Position the person in a side-lying position facing away from you. The person's back is approximately 9-10 inches from the side of the mat closest to the chair.

3. LEADER: Kneel with both knees touching the person's back. Slide one arm under the person's head and grasp the bottom shoulder. Place your other arm across the person's chest and grasp the back of the bottom arm, just above the elbow.

4. ASSISTANT: Kneel in front of the person's knees. Place one hand on the person's top hip. Wrap your other arm over and around the person's knees and grasp the bottom leg just above the knee. Flex the person's knees toward his or her chest.

5. LEADER AND ASSISTANT: With the leader giving the count, simultaneously:

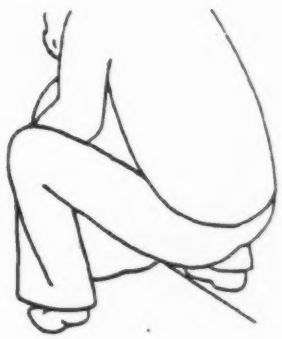
ASSISTANT:
Keep the person's knees flexed. Push down on the person's top hip and at the same time pull the knees up and turn them away from you, until they are in an upright and flexed position.

LEADER:
Pull and lift the person's upper body until the person is sitting parallel to the edge of the mat.

6. LEADER: Kneel behind and close to the person's back. Slide your arms under the person's arms and across the chest. Grasp the person's opposite arms just below the elbows. Gently pull the person's arms in until they press against the lower rib cage and his or her back is touching your chest.

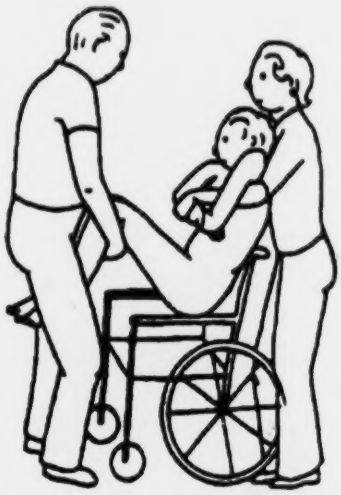
7. ASSISTANT: Squat in front of the person's knees. Maintain his or her knees in an upright flexed position. Place your foot that is farthest away from the chair against the outside of the person's foot. Place your other foot off the mat, in front of the chair. Tilt your knee farthest from the chair so that your lower leg is blocking the person's knees. Keep your weight on that foot. Interlock your hands behind the person's knees.

8. LEADER: Change your position from kneeling to squatting. Place one foot off the mat. Maintain your weight on your other foot.



9. LEADER AND ASSISTANT: With the leader giving the count and with your backs straight, keep the person close to your body and lift the person free of the mat. Lift the person straight up until you are standing upright and the person's buttocks are higher than the chair.

10. On signal, lower the person into the chair, by bending your hips and knees.



11. Properly position the person in the sitting position.

Positioning, Turning and Transferring

VALUE-BASED SKILLS
TRAINING CURRICULUM

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